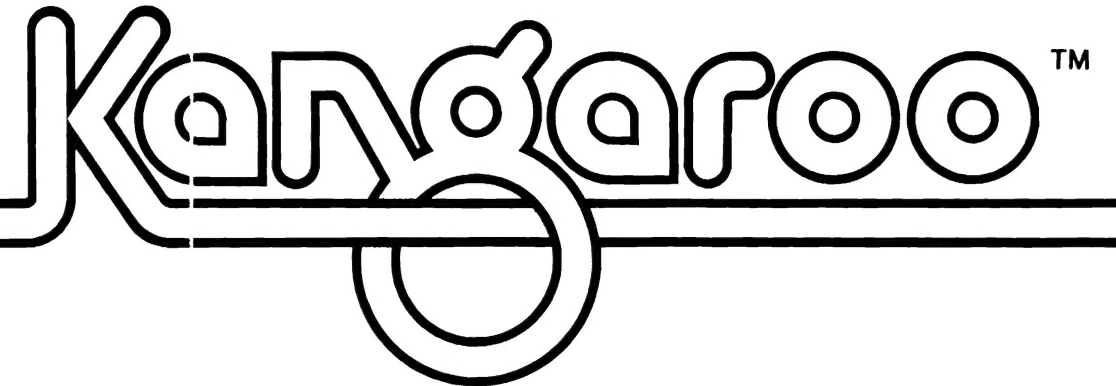


# Schematic Package Supplement to

## Table of Contents



- Sheet 1A You Are Here
- Sheet 1B Upright Kangaroo Game Wiring Diagram (038577-01 A)
- Sheet 2A Ireland-Built Kangaroo Game Wiring Diagram (038451-01 A)
- Sheet 2B Color Raster-Scan Power Supply Wiring Diagram (037669-01 C)
- Sheet 3A Regulator/Audio II PCB Schematic Diagram (035435-06 B)
- Sheet 3B Coin Door Wiring Diagram (037542-01 B), Utility Panel Wiring Diagram (038004-01 B),  
Fluorescent Light and Speaker Wiring Diagram (035833-01 A)

### Central Processing Unit (CPU) PCB Schematics (038469-01 A), Sheets 4A-7A

- Sheet 4A Block Diagram
- Sheet 4B Memory Map, CPU Power Input
- Sheet 5A Game Microprocessor, Address Decoder
- Sheet 5B Program ROM, RAM
- Sheet 6A Inputs, Outputs
- Sheet 6B Sound Microprocessor, Address Decoder
- Sheet 7A Custom Microcomputer

### Video PCB Schematics (038468-01 A), Sheets 7B-11B

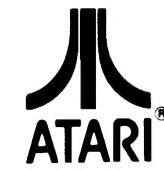
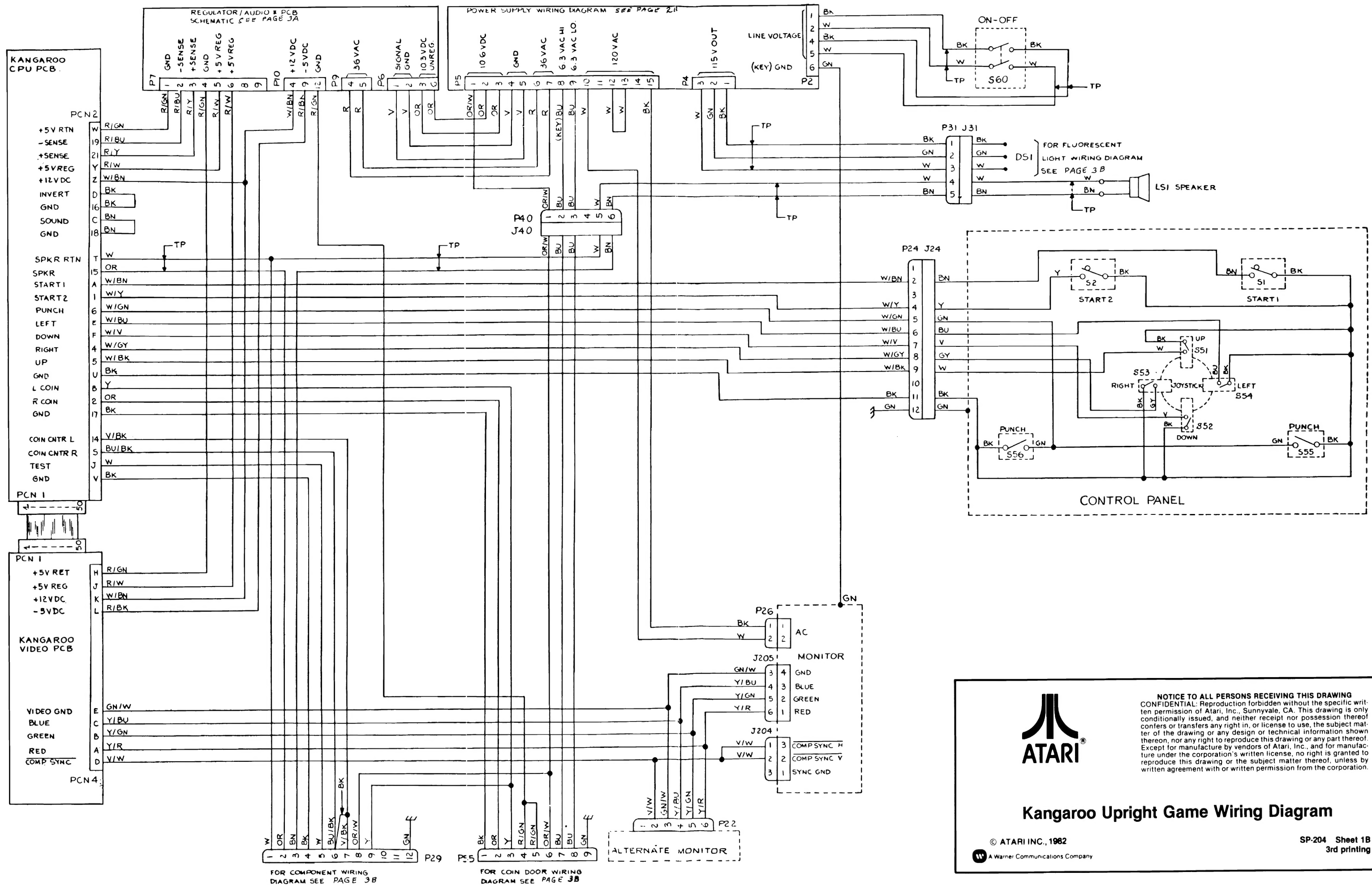
- Sheet 7B Block Diagram
- Sheet 8A Dynamic RAM Timing Diagram, Video Power Input
- Sheet 8B Clock, Sync Chain and Timing Signals, Dynamic RAM Control, Address Decoding
- Sheet 9A DMA Control, Dynamic RAM Video Address and Flip
- Sheet 9B Picture ROM Address Selector, Picture ROM
- Sheet 10A Dynamic RAM Address from CPU and for DMA
- Sheet 10B Dynamic RAM Data Selector, Address Selector, and Control Latches
- Sheet 11A Playfield (Dynamic RAM A)
- Sheet 11B Motion Object (Dynamic RAM B), Video Output
- Sheet 12A Electrohome 19-Inch Color Raster-Scan Video Display Schematic Diagram

## Operation, Maintenance and Service Manual

### NOTE

*This staple temporarily holds the schematic package together. Remove the staple before using the schematics.*



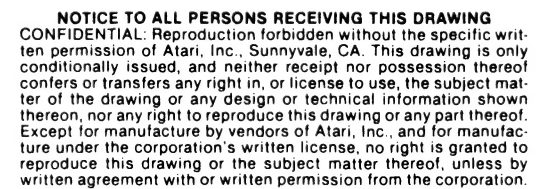
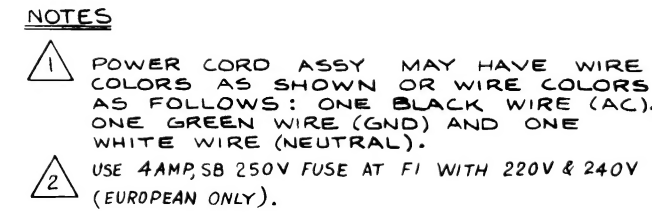


**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

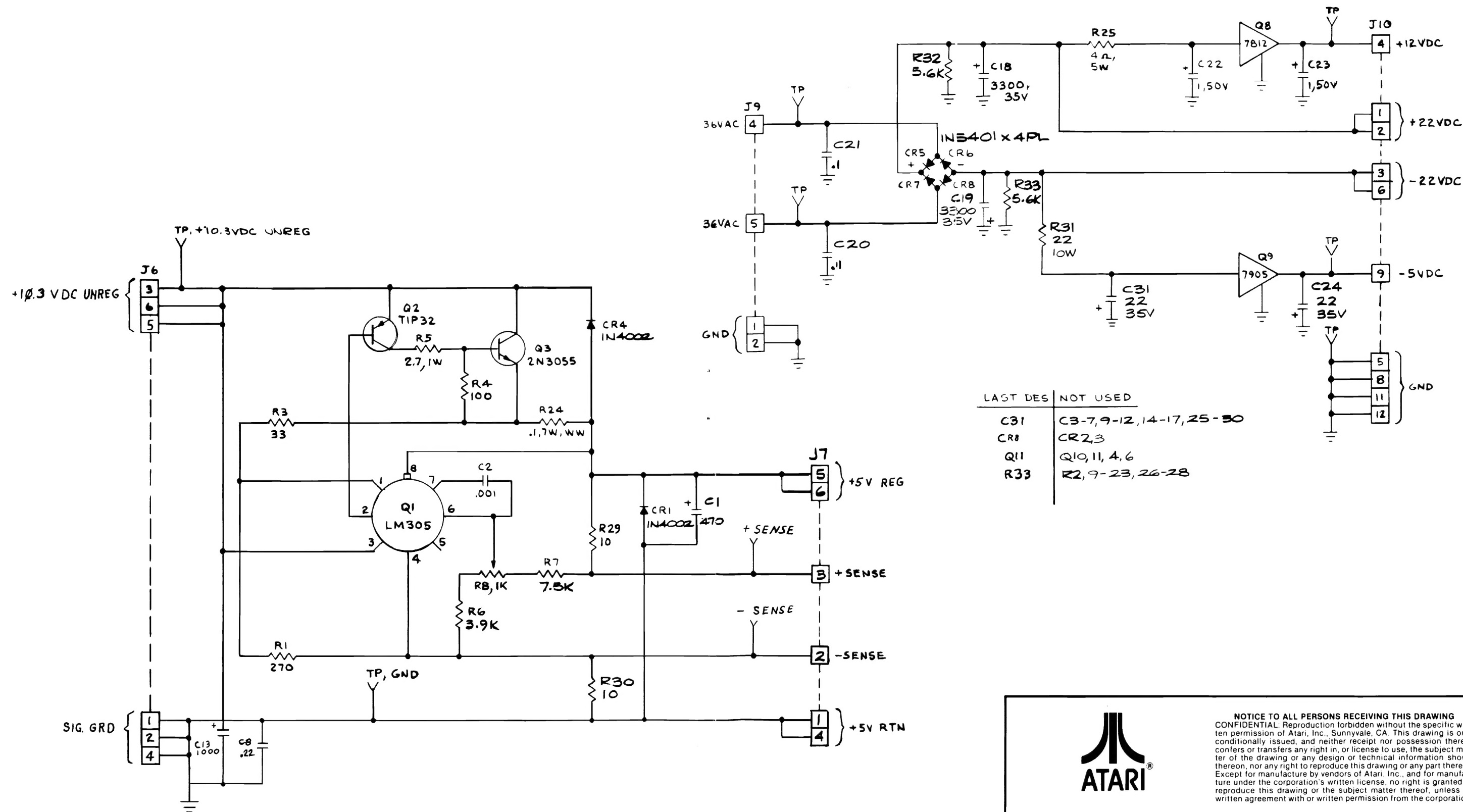
# Kangaroo Upright Game Wiring Diagram

© ATARI INC., 1982  
 A Warner Communications Company





© ATARI INC., 1982  
A Warner Communications Company



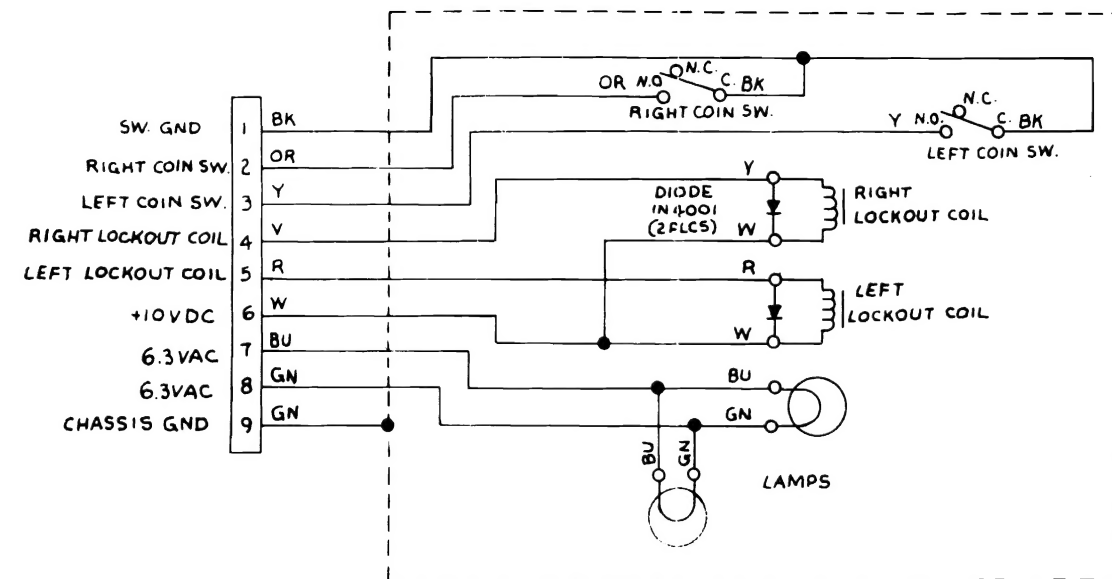
LAST DES	NOT USED
C31	C3-7, 9-12, 14-17, 25-30
CR8	CR2, 3
Q11	Q10, 11, 4, 6
R33	R2, 9-23, 26-28



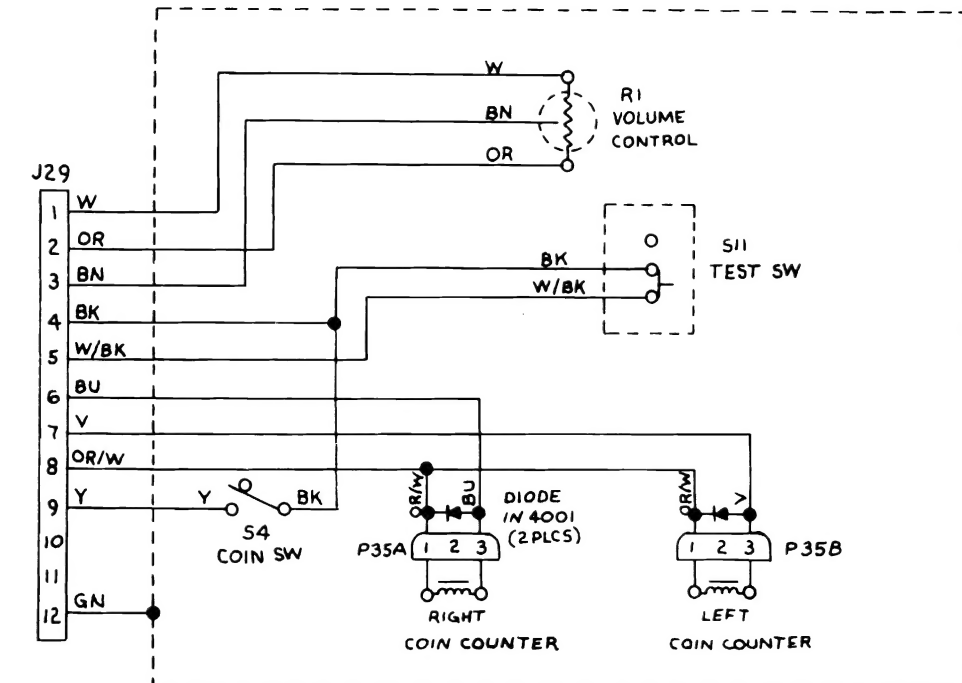
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING  
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

# Kangaroo Reg/Audio II PCB Schematic Diagram

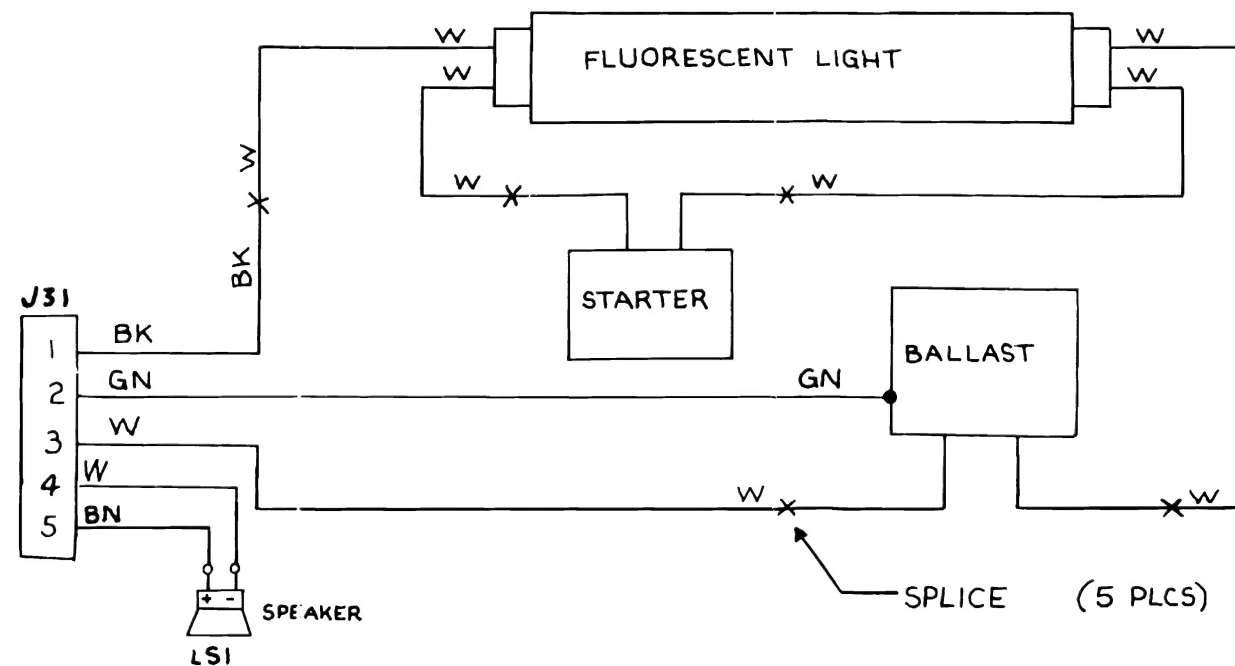
### Coin Door Wiring Diagram



### Utility Panel Wiring Diagram



### Fluorescent Light and Speaker Wiring Diagram

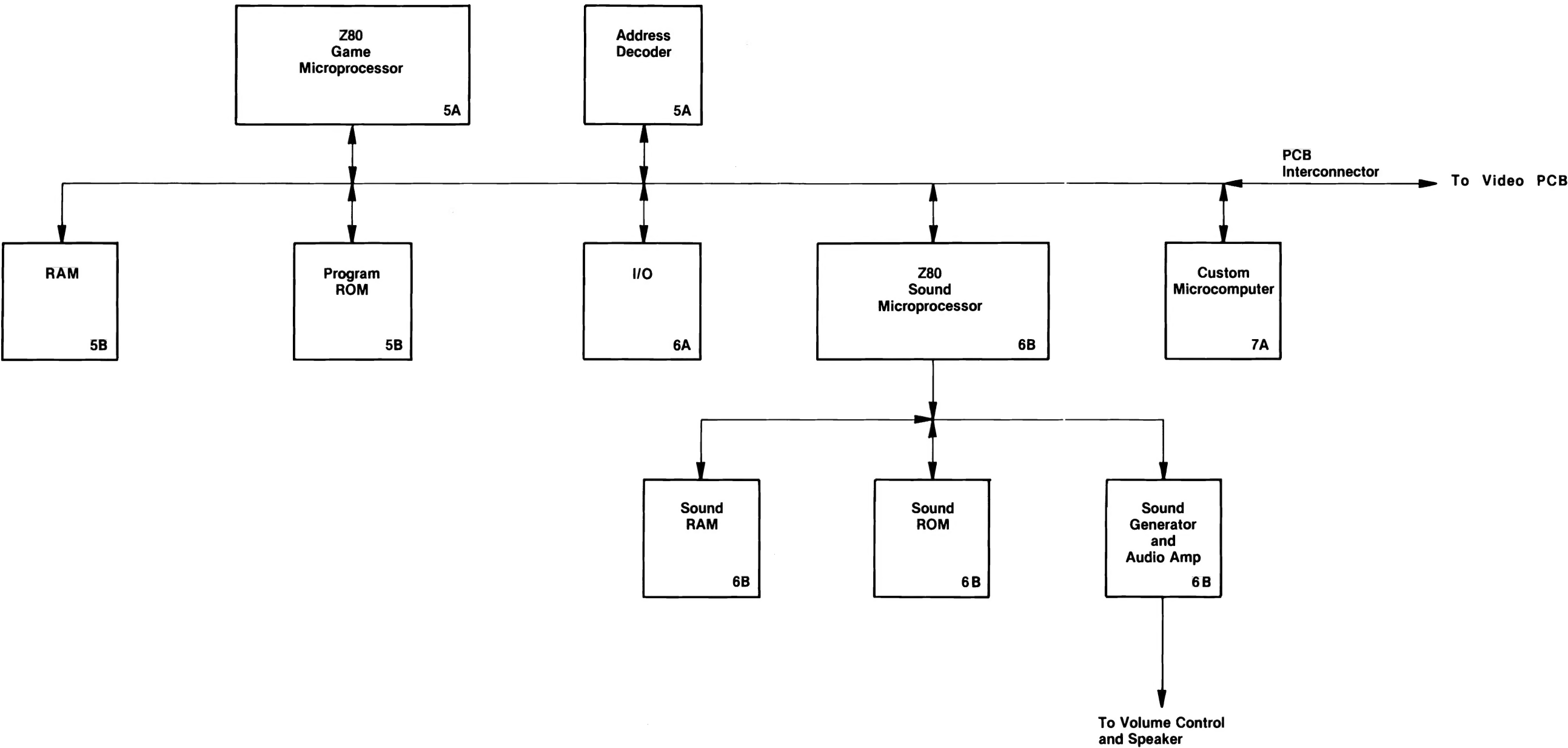


**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

### Kangaroo Game Wiring Interfaces

Block Diagram (CPU PCB)

**NOTE**  
The **service switch**, located on the CPU PCB, allows you to enter credits without tripping the coin counter.



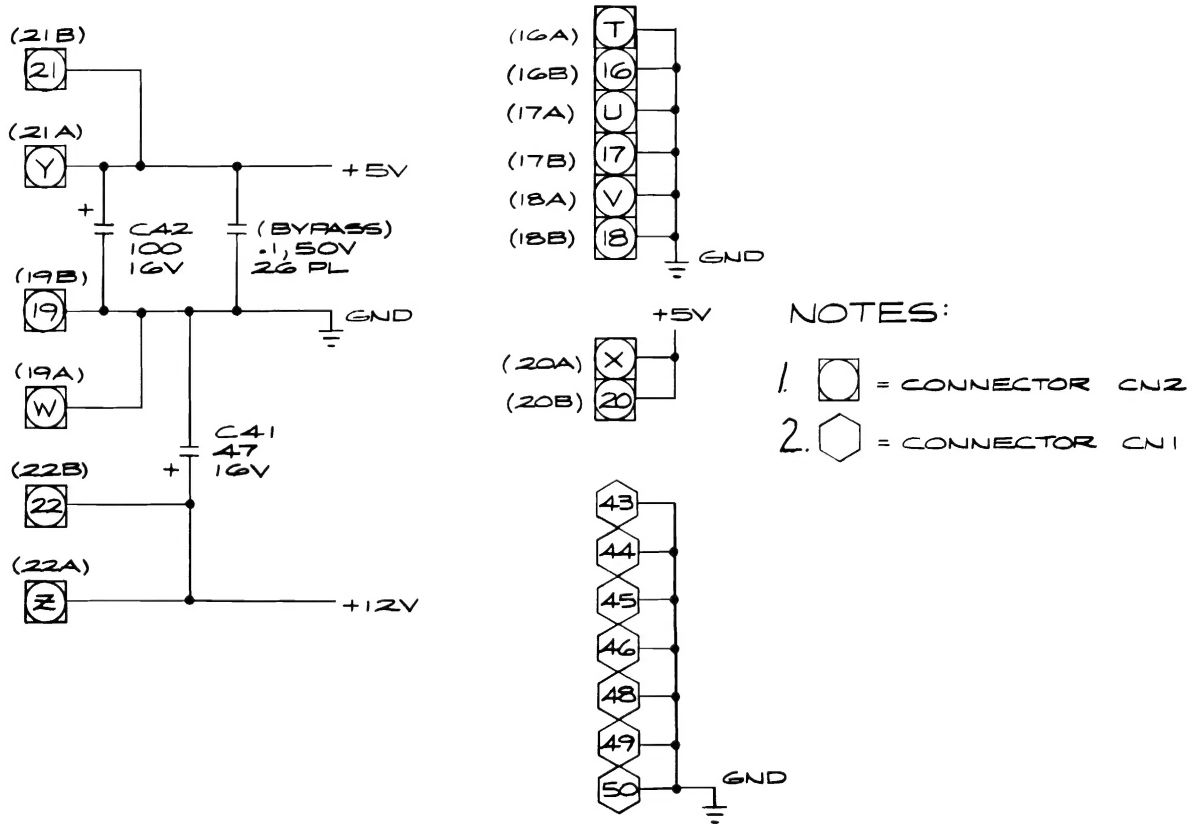
**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo CPU PCB Schematic Diagram

Memory Map

HEXA- DECIMAL ADDRESS	R/W	DATA D7 D6 D5 D4 D3 D2 D1 D0								FUNCTION
Game Microprocessor Memory Space (IC15)										
0000-5FFF	R	D	D	D	D	D	D	D	D	Z80 24K Program ROM
E000-E3FF	R/W	D	D	D	D	D	D	D	D	1K Working RAM
E400	R	D	D	D	D	D	D	D	D	Option Switch
E800	W	D	D	D	D	D	D	D	D	Low Byte } Start Address of Data in Picture High Byte } ROM for DMA
E801	W	D	D	D	D	D	D	D	D	
E802	W	D	D	D	D	D	D	D	D	Low Byte } Start Address in Bit Map RAM (where High Byte } picture is to be written) During DMA
E803	W	D	D	D	D	D	D	D	D	
E804	W	D	D	D	D	D	D	D	D	Low Byte } Picture Size for DMA High Byte } and DMA Start
E805	W	D	D	D	D	D	D	D	D	
E806	W	D	D	D	D	D	D	D	D	Vertical Start Address in Bit Map
E807	W	D	D	D	D	D	D	D	D	Horizontal Start Address in Bit Map
E808	W							D	D	Bank Select Latch
E809	W				D	D	D	D	D	A & B Bit Map Control Latch (A = playfield, B = motion) Color-Shading Latch
E80A					D	D	D	D	D	
EC00	W	D	D	D	D	D	D	D	D	Sound DATA to Sound Microprocessor
EC00	R								D	Utility Coin Switch
EC00	R							D		1 Player Start
EC00	R						D			2 Player Start
EC00	R					D				Left Coin Input
EC00	R				D					Right Coin Input
ED00	W								D	Coin Counter 1
ED00	W								D	Coin Counter 2 (European games)
ED00	R								D	Player 1 Right
ED00	R								D	Player 1 Left
ED00	R						D			Player 1 Up
ED00	R					D				Player 1 Down
ED00	R				D					Player 1 Punch
EE00	R								D	Player 2 Right
EE00	R								D	Player 2 Left
EE00	R							D		Player 2 Up
EE00	R					D				Player 2 Down
EE00	R				D					Player 2 Punch
EFXX	W					D	D	D	D	Output to Custom Microcomputer
EFXX	R					D	D	D	D	Input from Custom Microcomputer
Sound Microprocessor Memory Space (IC34)										
0000-0FFF	R	D	D	D	D	D	D	D	D	4K Program ROM
4000-43FF	R/W	D	D	D	D	D	D	D	D	1K Working RAM
6000	R	D	D	D	D	D	D	D	D	Read DATA from Game Microprocessor
7000	W	D	D	D	D	D	D	D	D	Write to Sound Chip (GI-AY-3-8910)
8000	R	D	D	D	D	D	D	D	D	Read from Sound Chip

CPU Power Input



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo CPU PCB Schematic Diagram

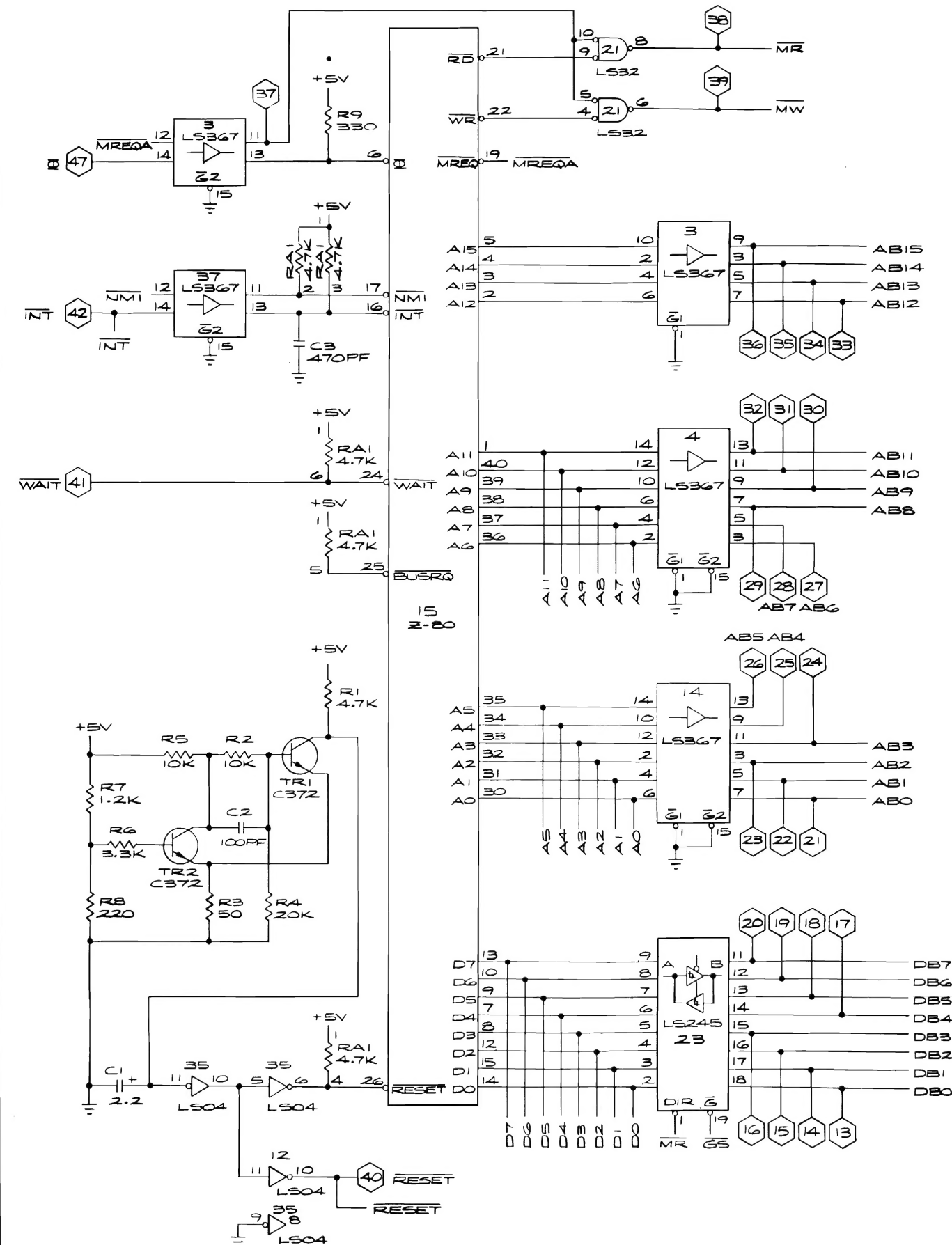
© ATARI INC., 1982

A Warner Communications Company

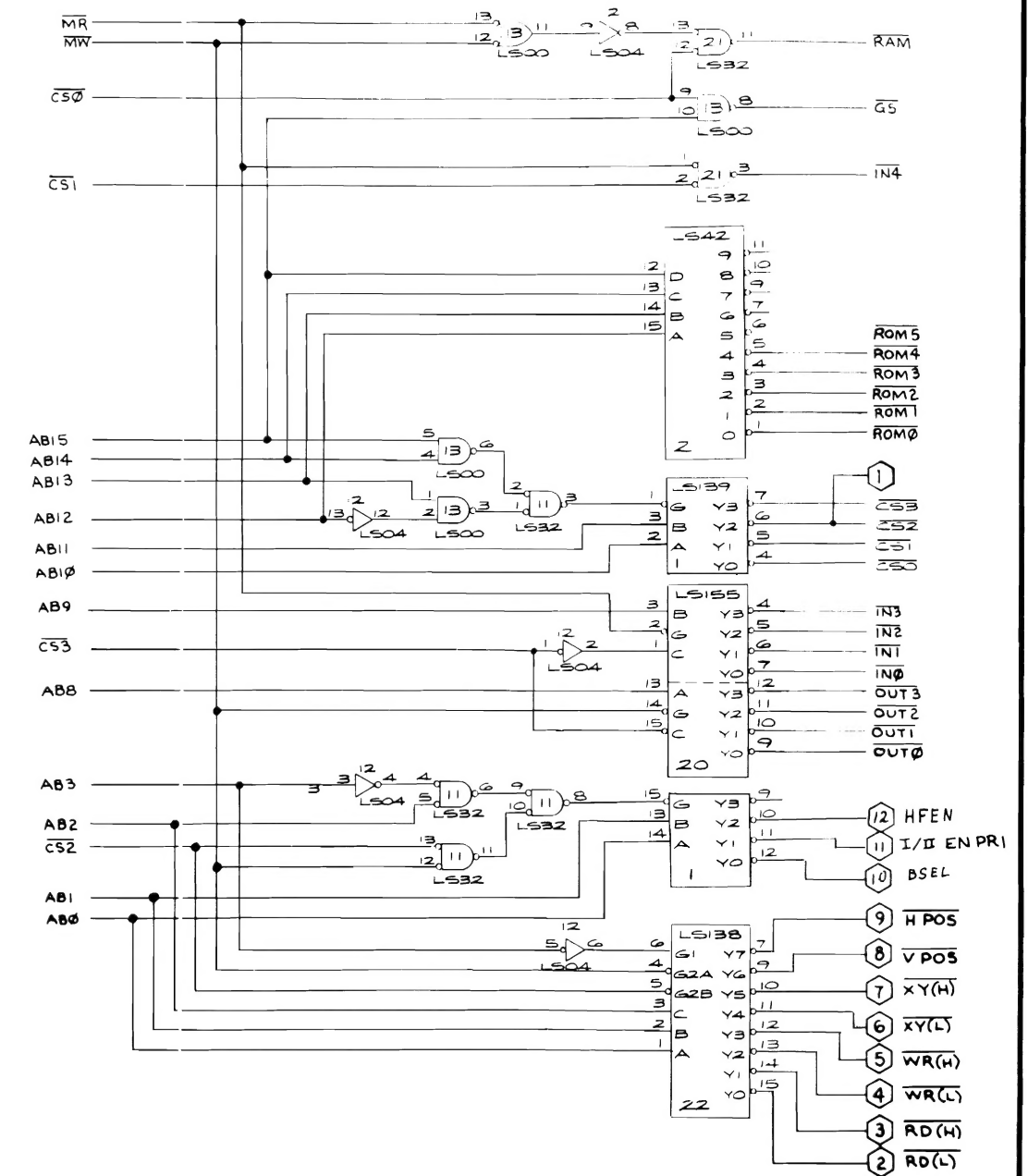
SP-204 Sheet 4B  
3rd printing



## Game Microprocessor



## Address Decoder



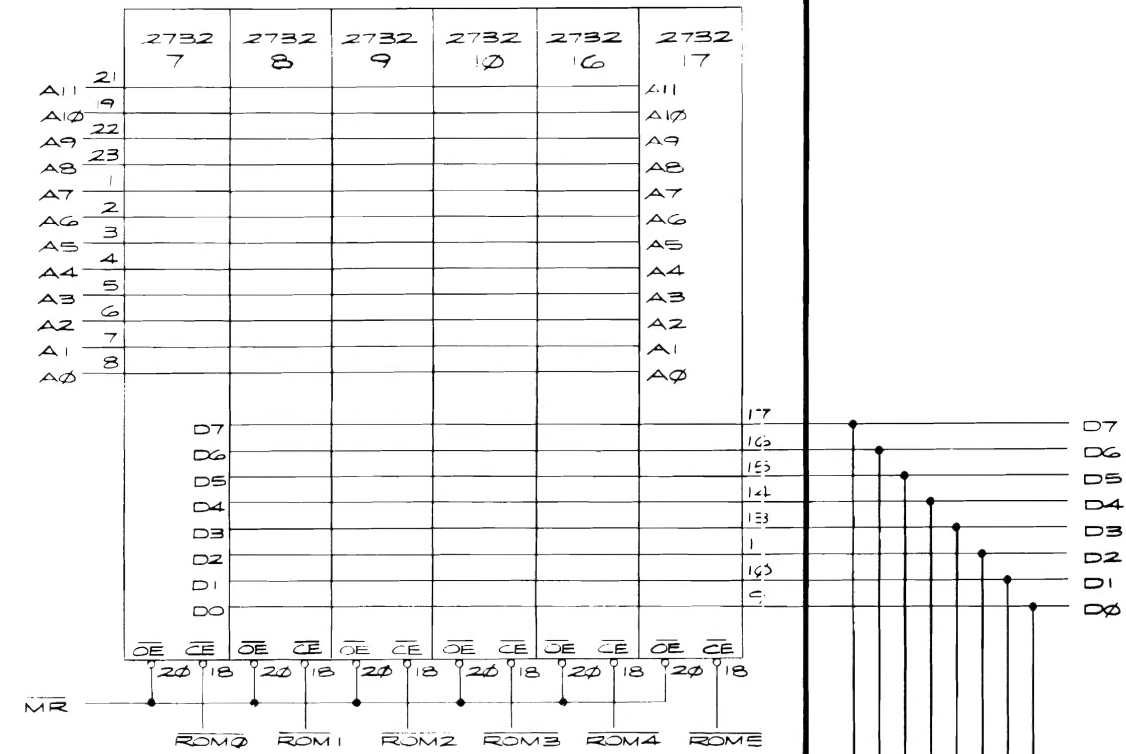
## Kangaroo CPU PCB Schematic Diagram

© ATARI INC., 1982  
A Warner Communications Company

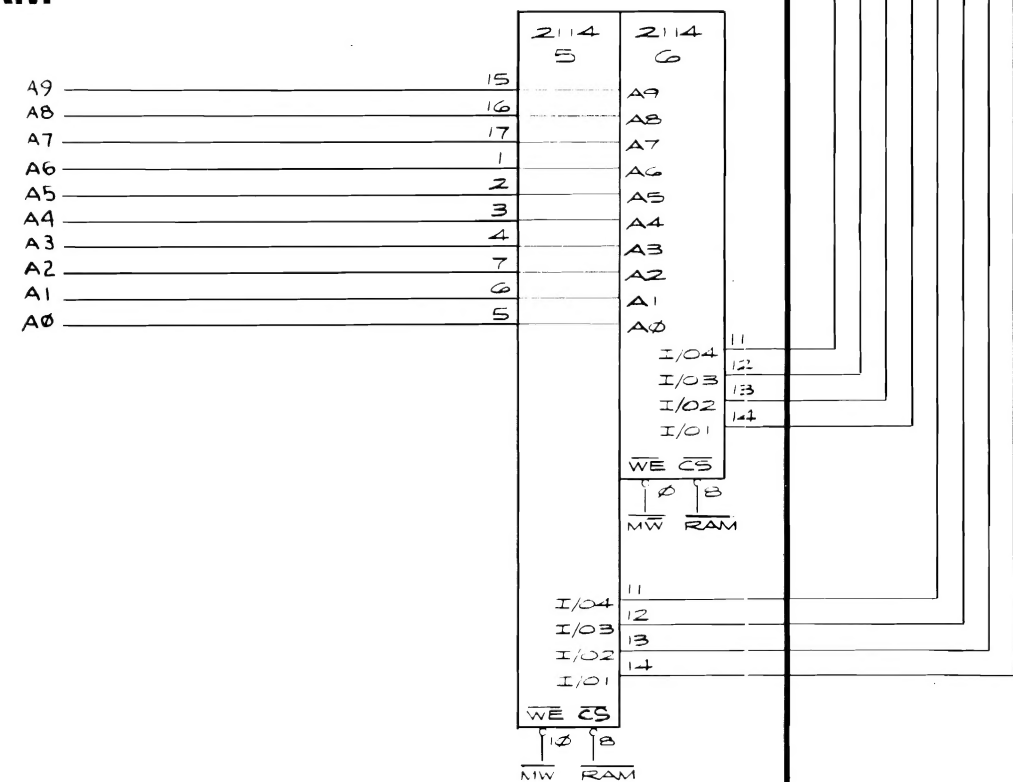
**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

SP-204 Sheet 5A  
3rd printing

## Program ROM



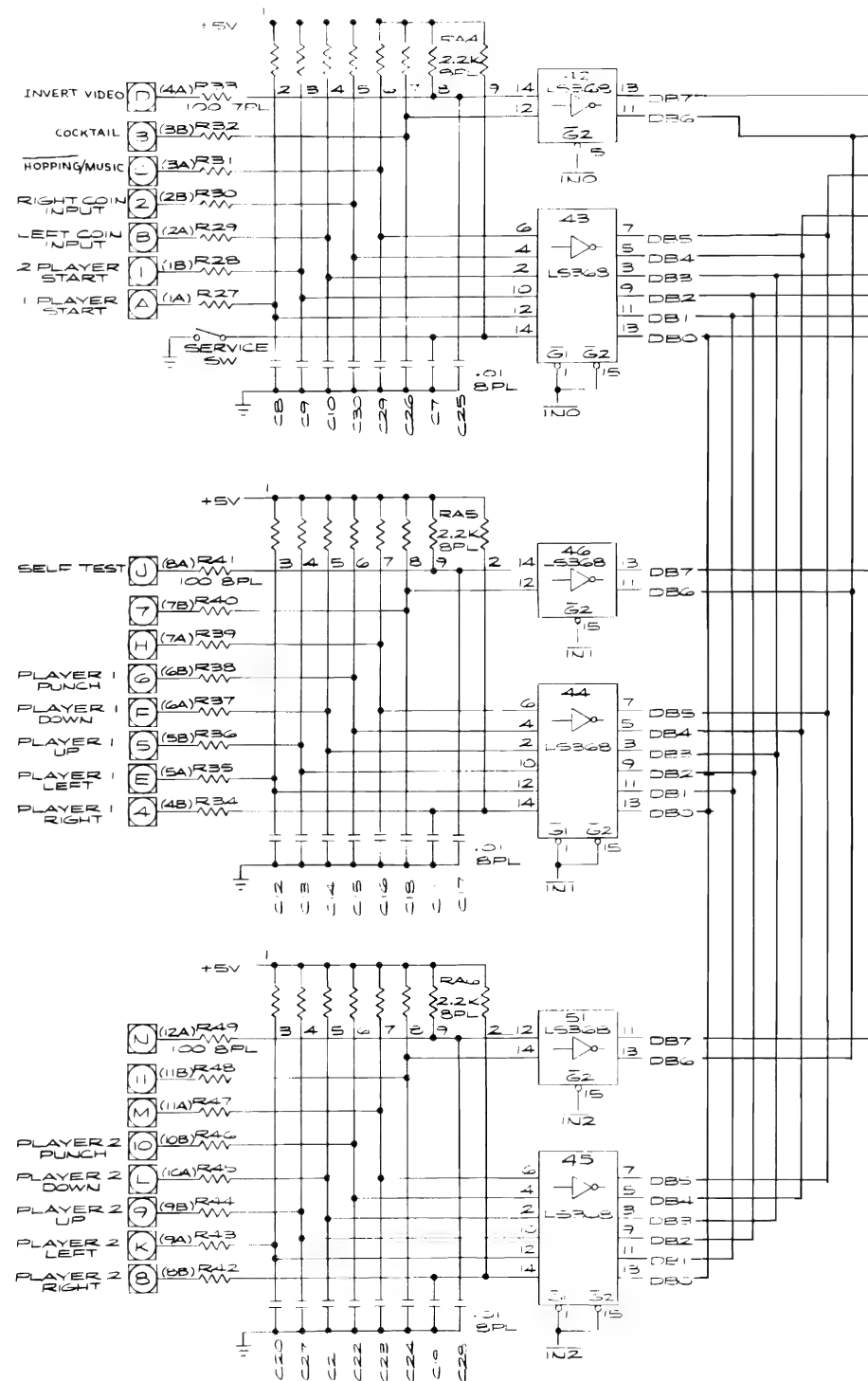
## RAM



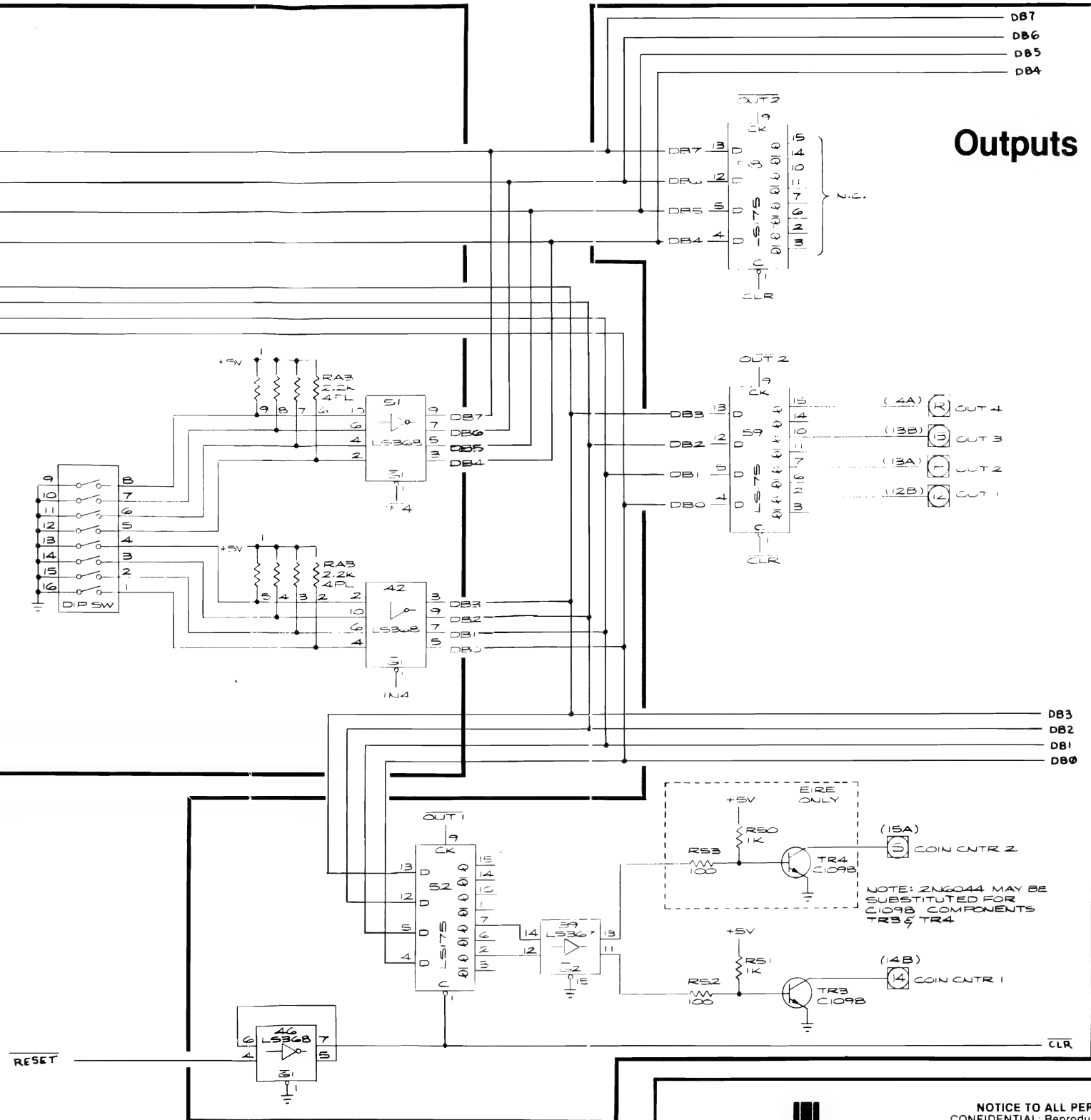
**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

## Kangaroo CPU PCB Schematic Diagram

Inputs



Outputs

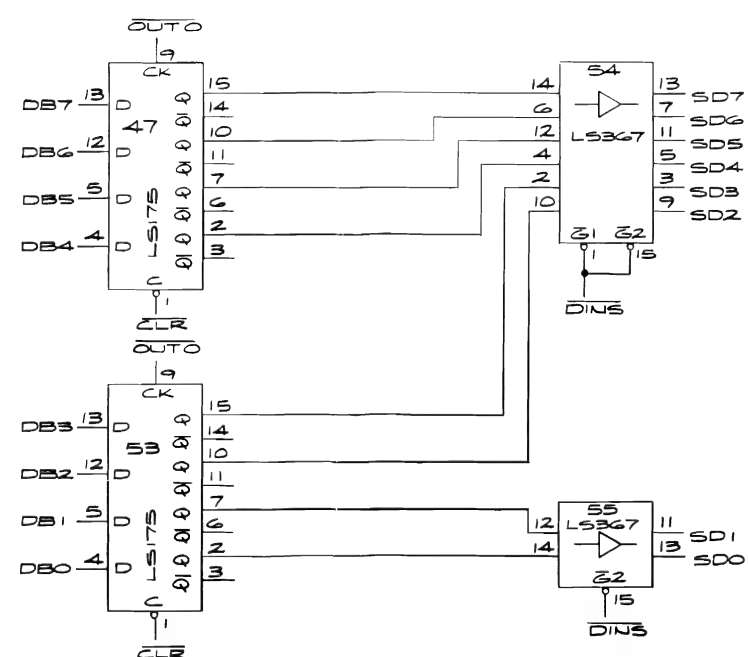
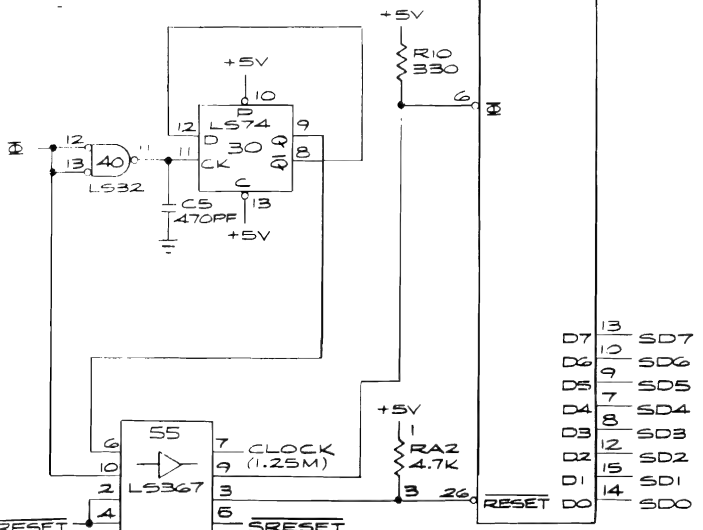
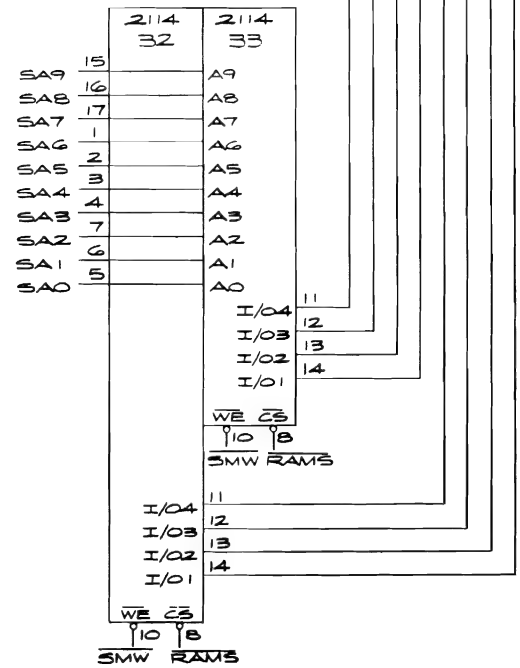
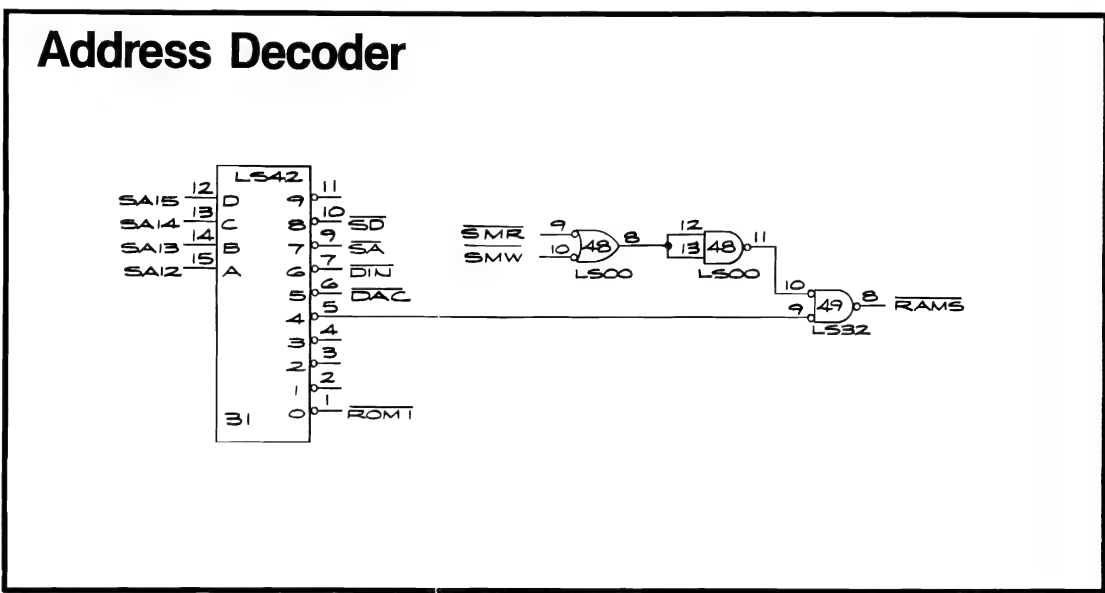
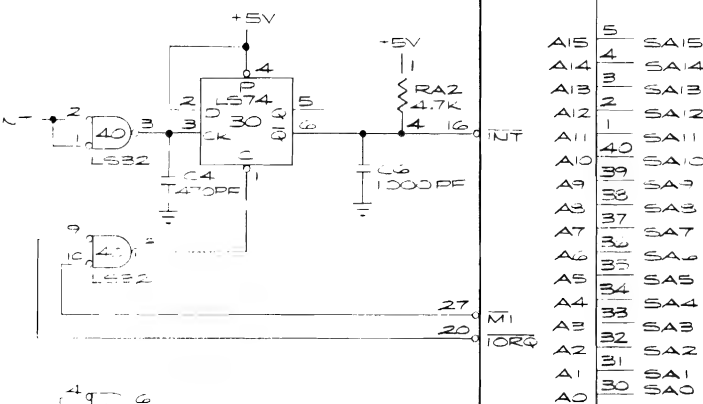
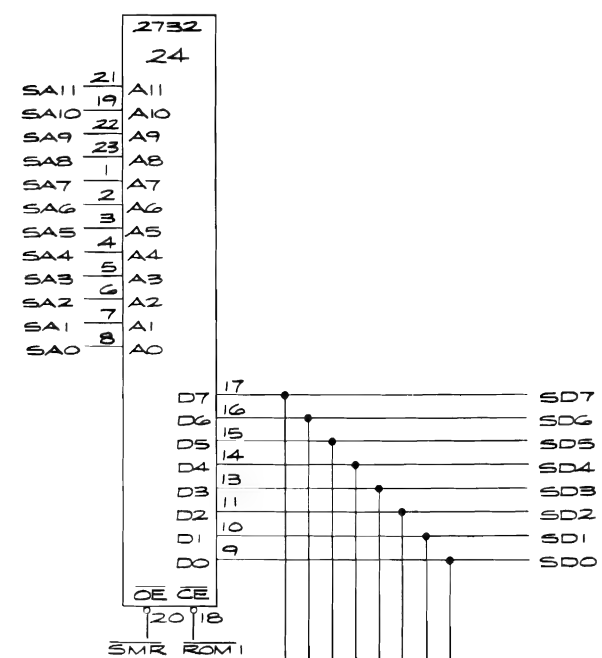
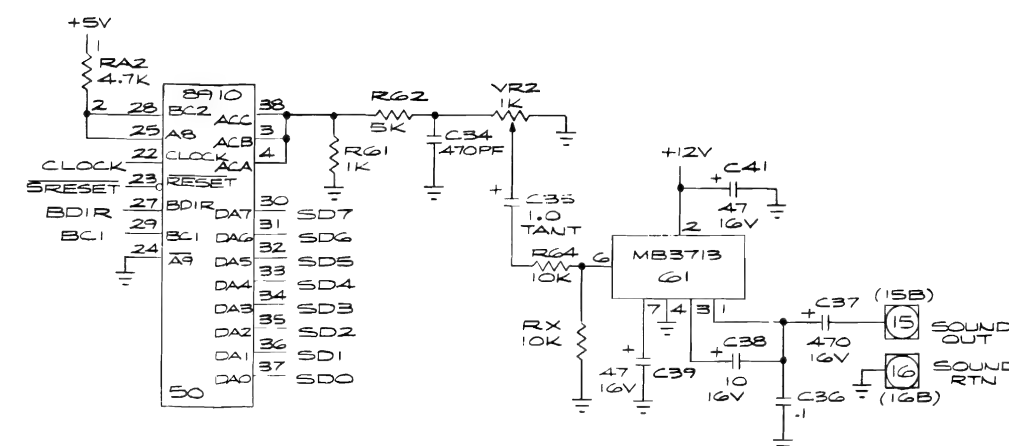
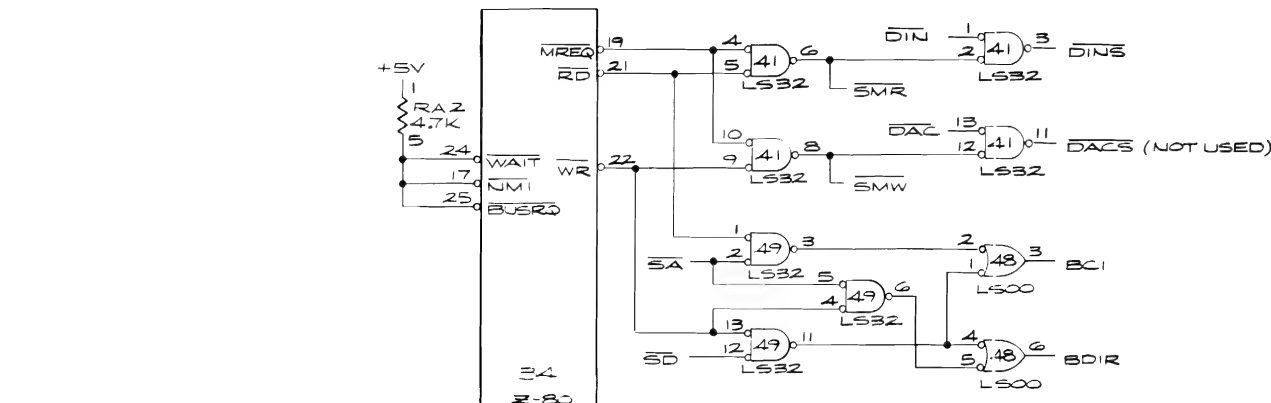


K'angaroo CPU PCB Schematic Diagram

© ATARI INC., 1982  
A Warner Communications Company

**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

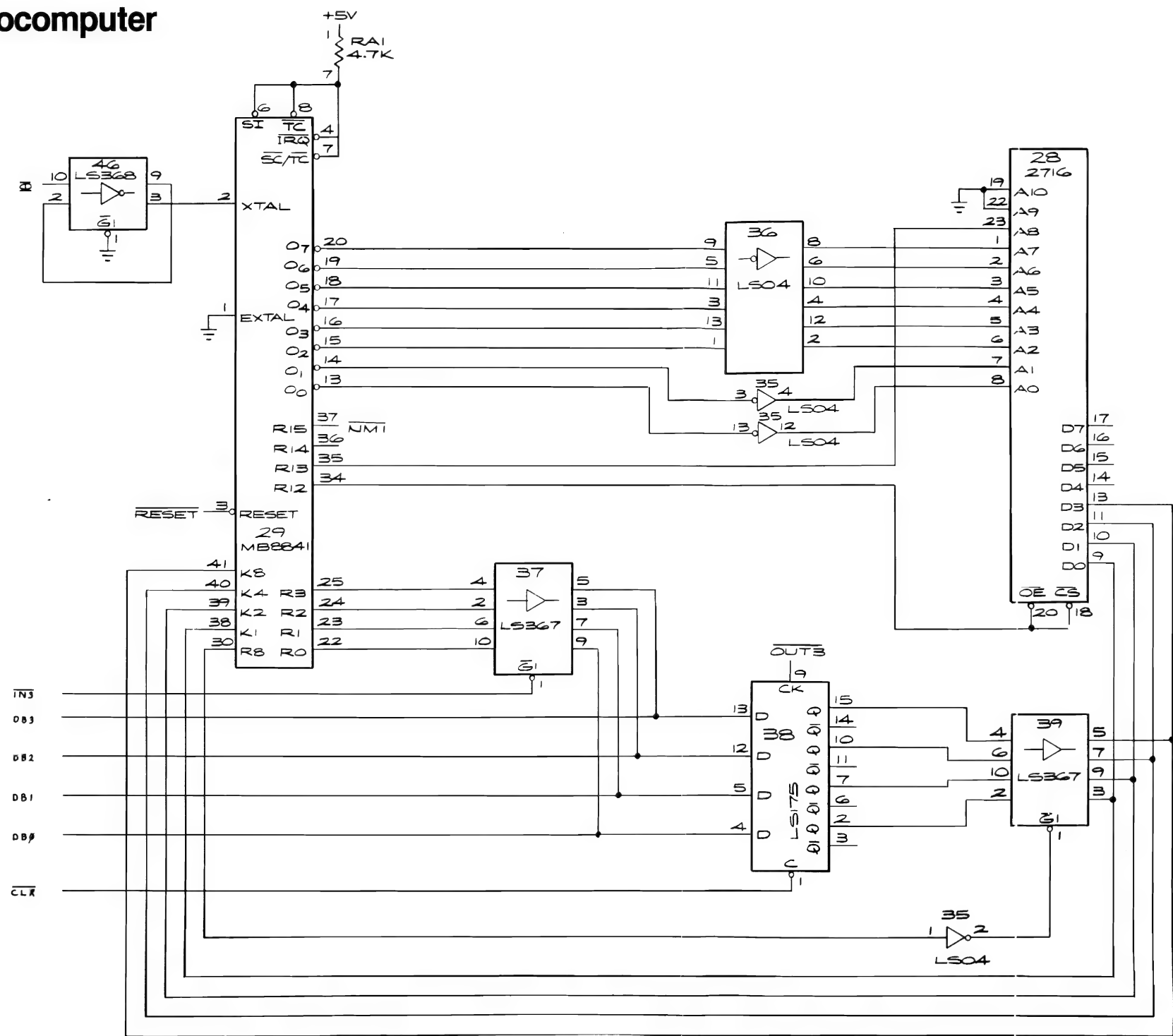
Sound Microprocessor



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo CPU PCB Schematic Diagram

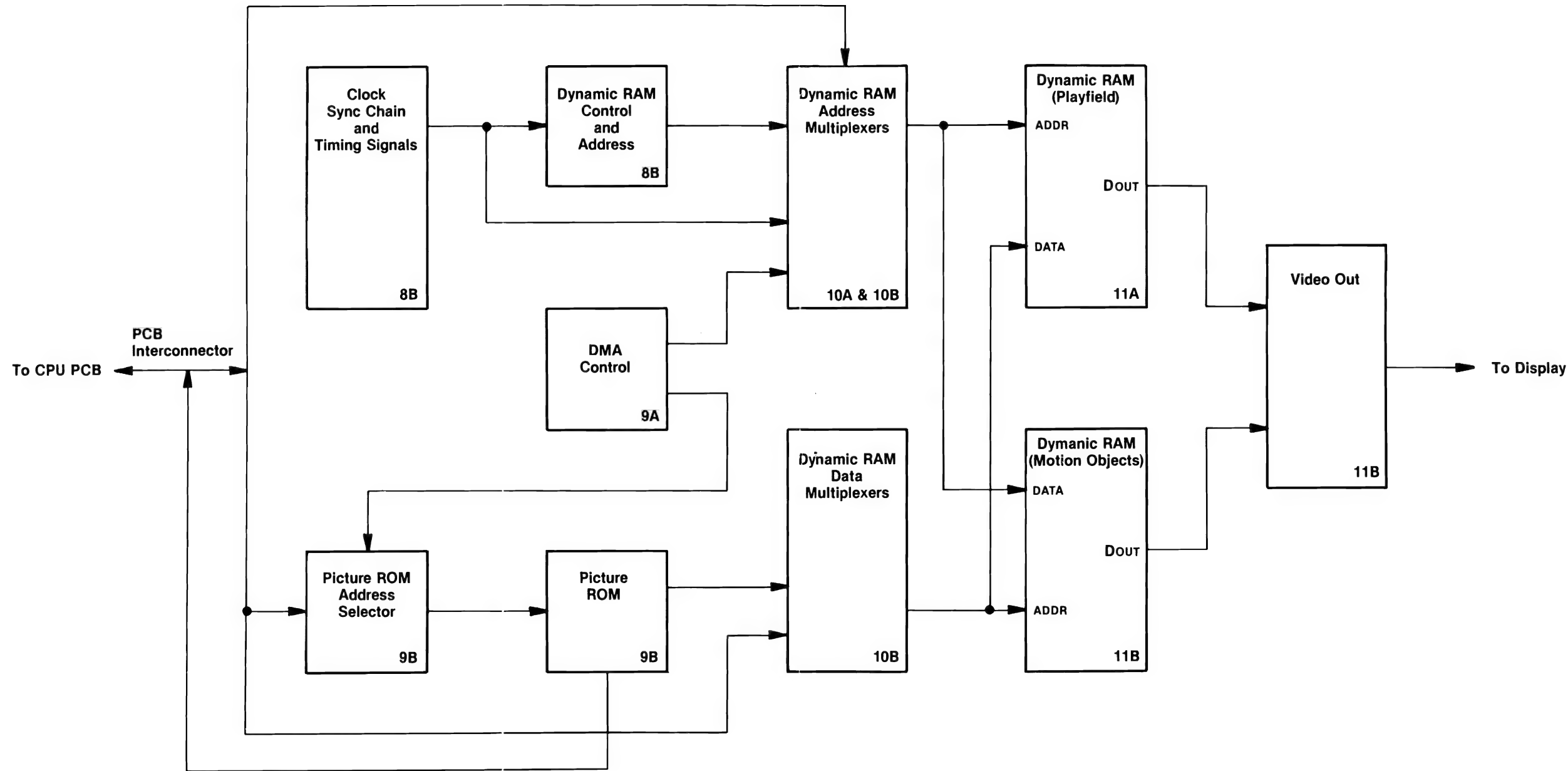
Custom Microcomputer



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo CPU PCB Schematic Diagram

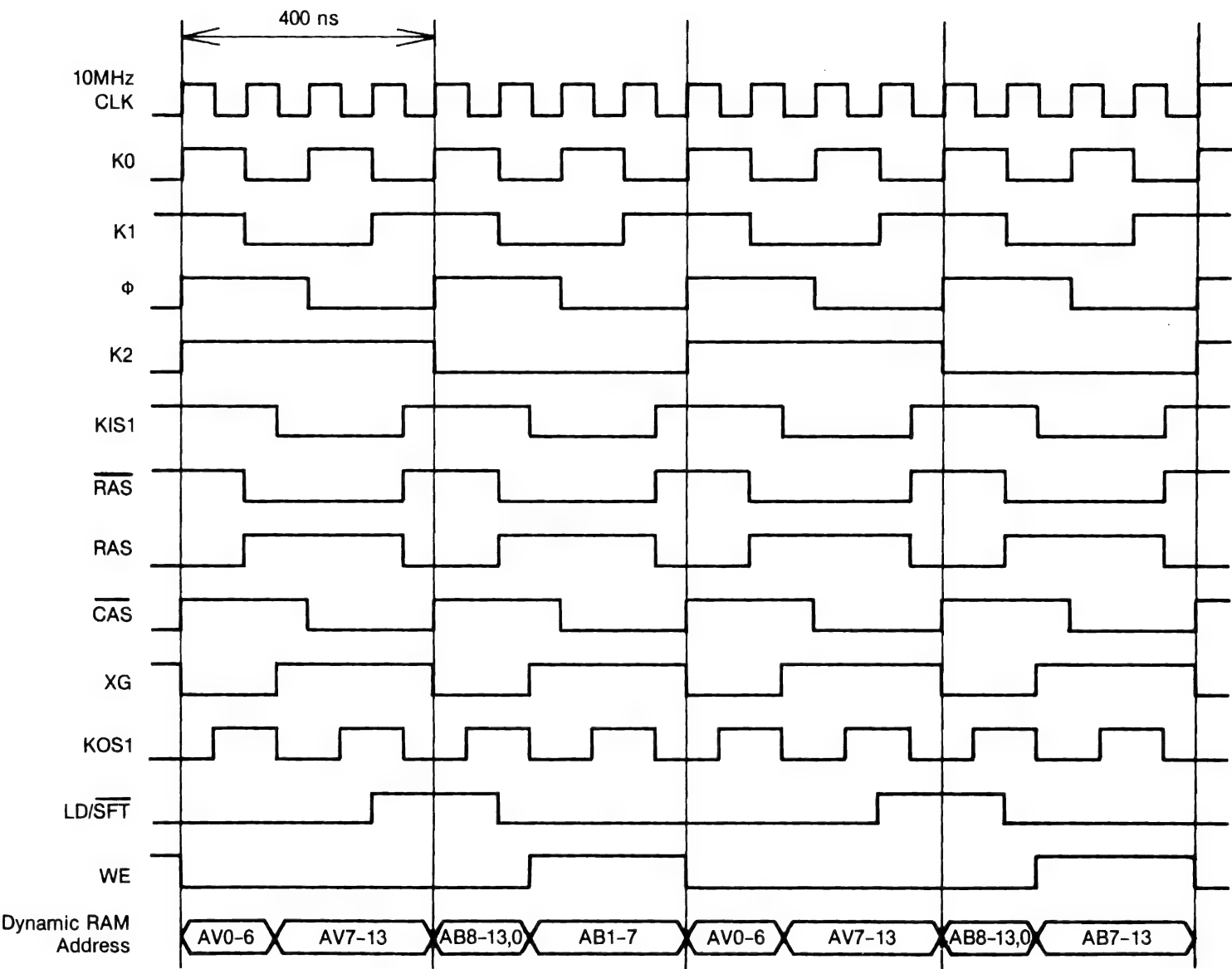
Block Diagram (Video PCB)



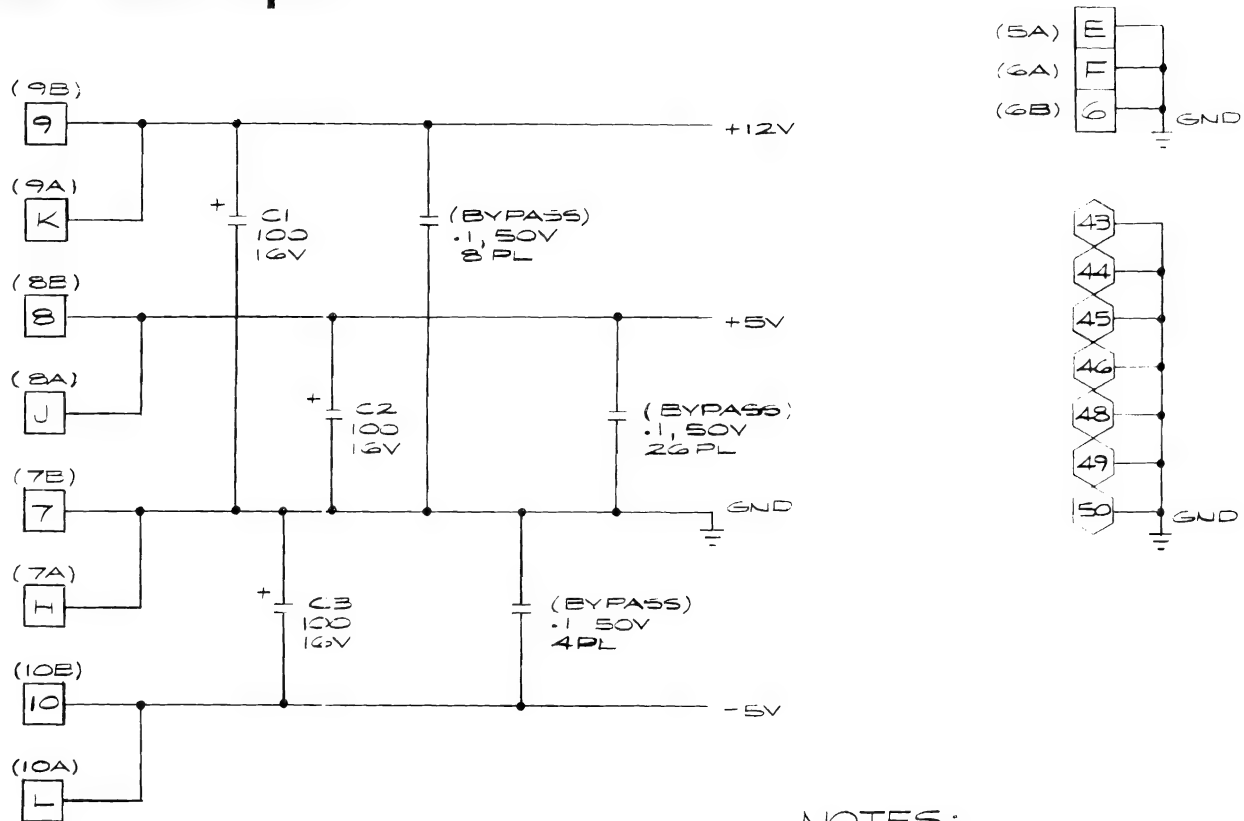
**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo Video PCB Schematic Diagram

Dynamic RAM Timing Diagram (Video PCB)



Video Power Input



NOTES:

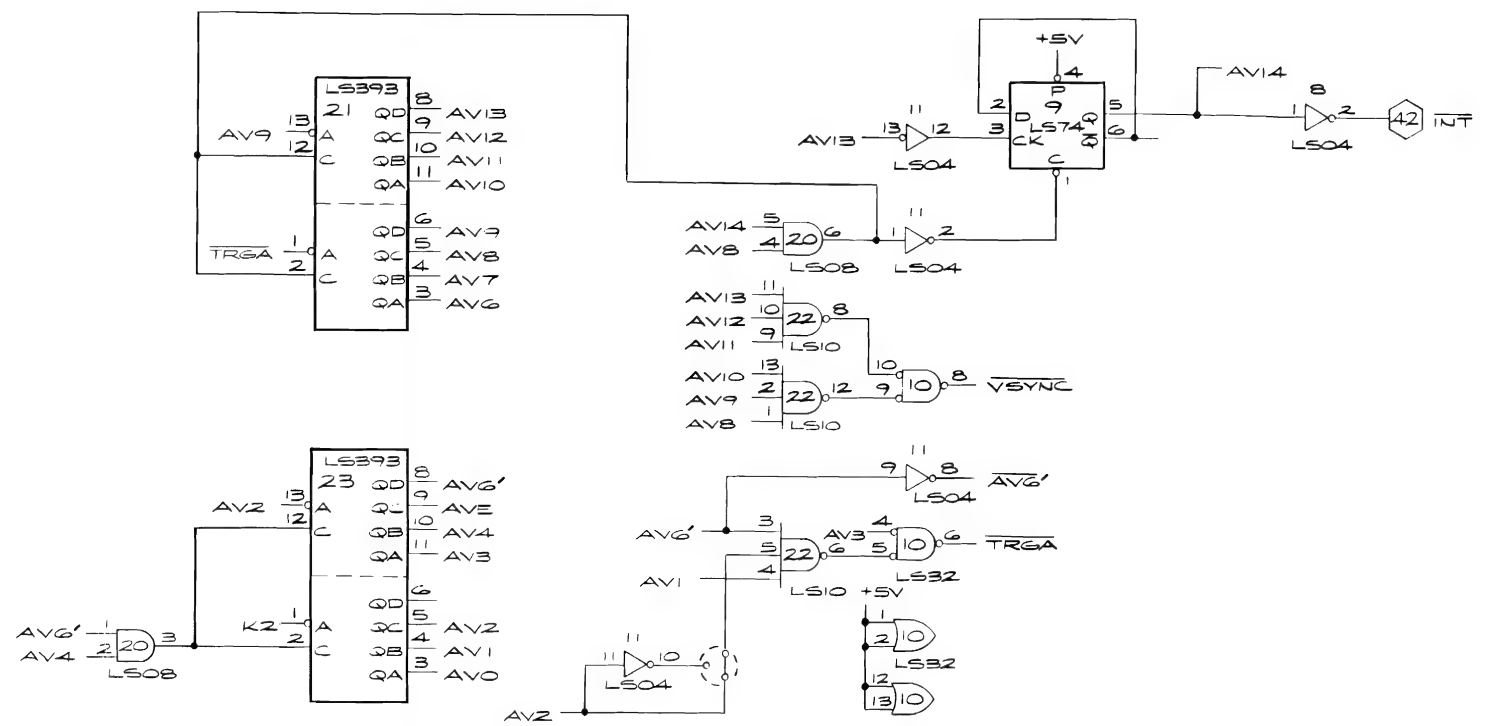
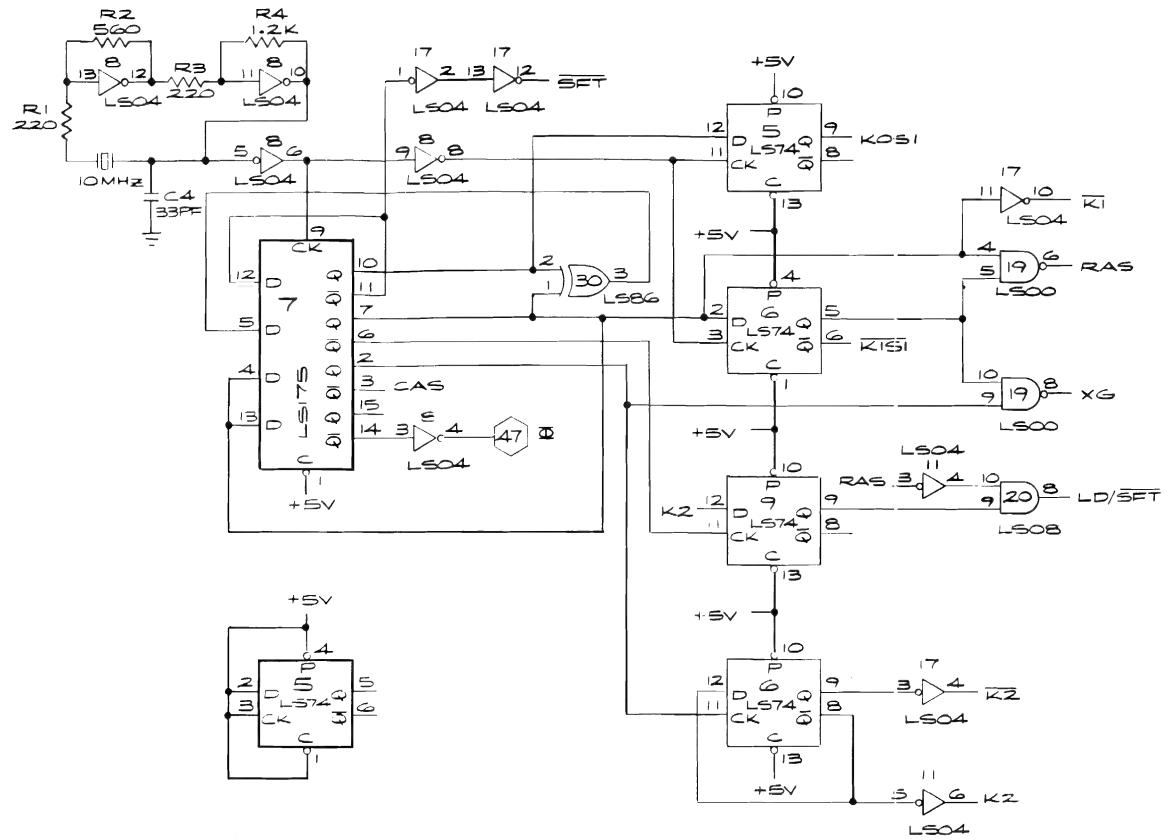
- 1. = CONNECTOR CN1
- 2. = CONNECTOR CN4



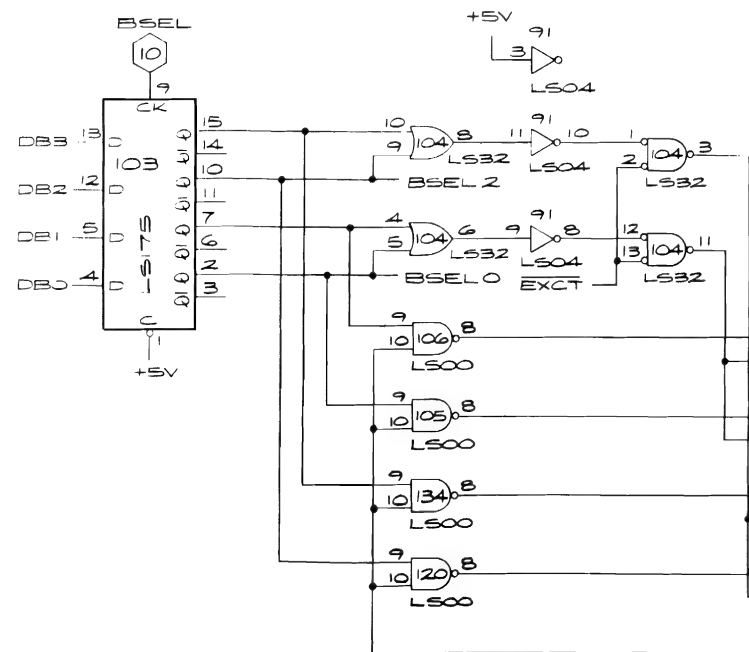
NOTICE TO ALL PERSONS RECEIVING THIS DRAWING  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo Video PCB Schematic Diagram

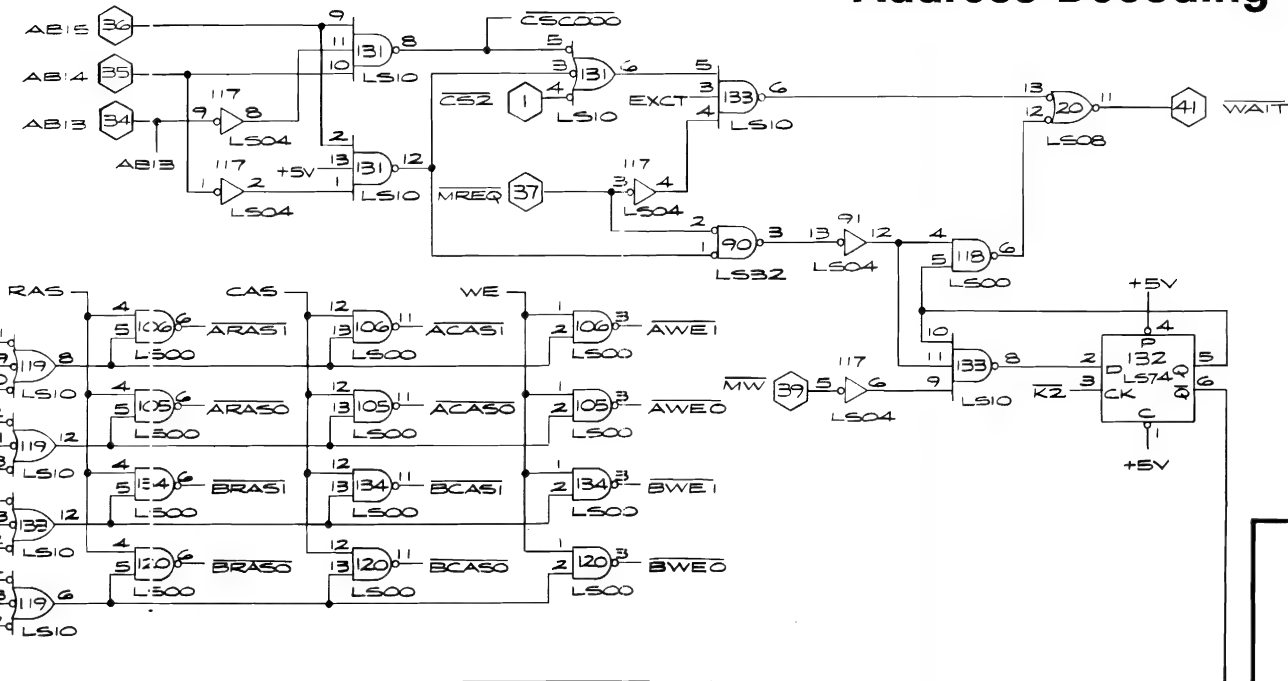
## Clock, Sync Chain, and Timing Signals



## Dynamic RAM Control



## Address Decoding



**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown therein, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., no right of manufacture under this conditional written license or right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

## Kangaroo Video PCB Schematic Diagram

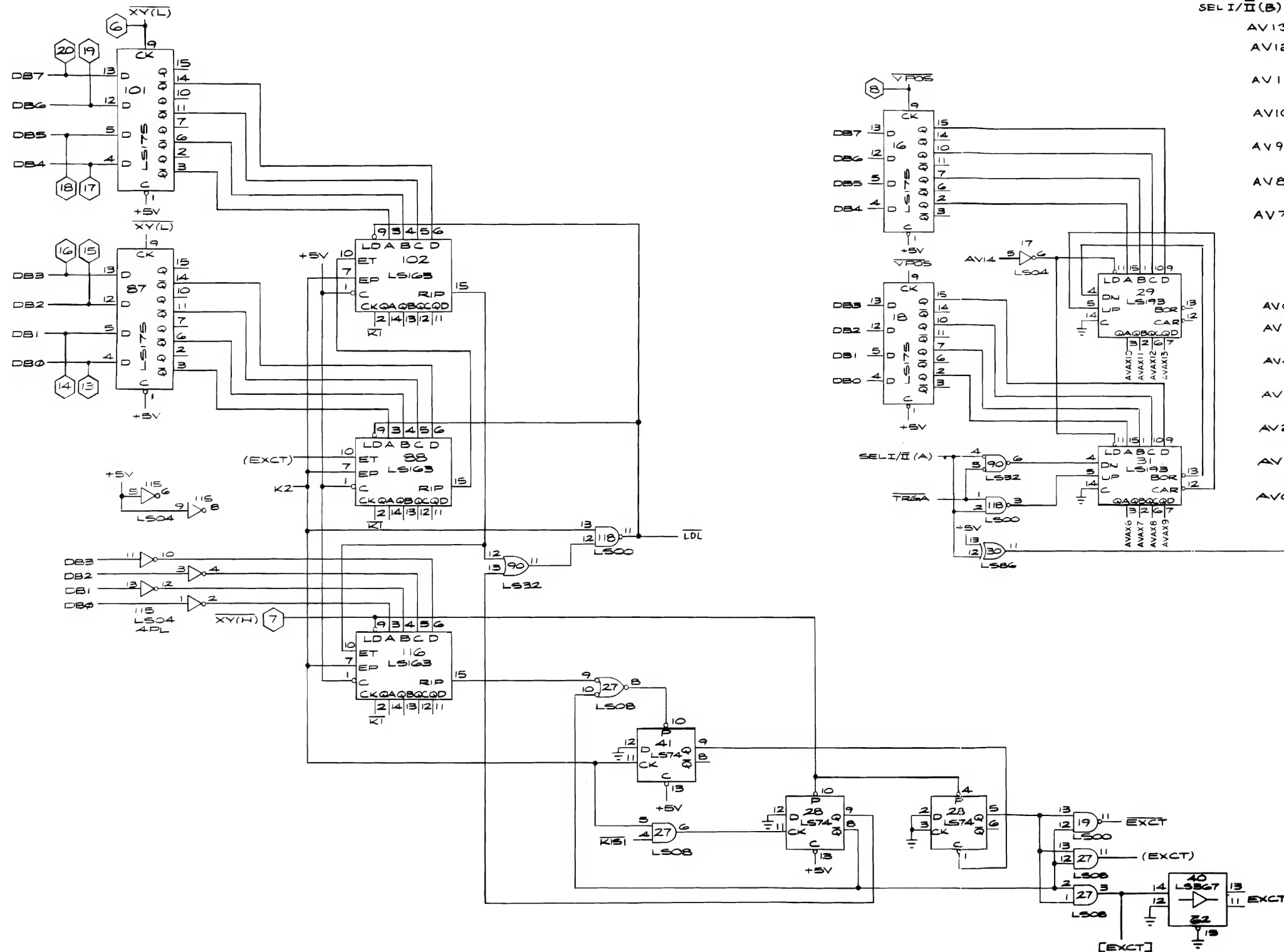
© ATARI INC., 1982

 A Warner Communications Company

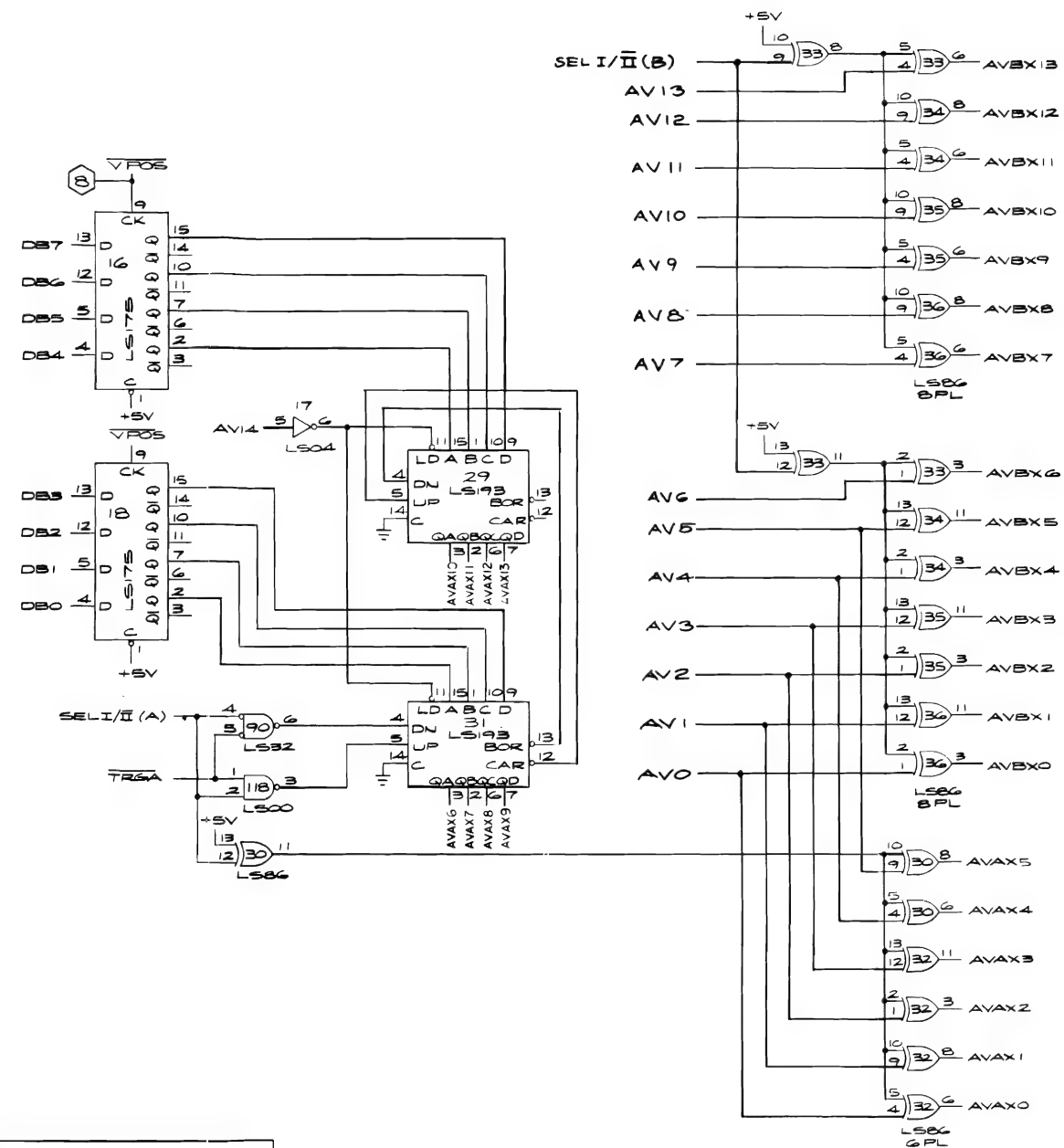
SP-204 Sheet 8B  
3rd printing



## DMA Control



## Dynamic RAM Video Address and Flip



**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

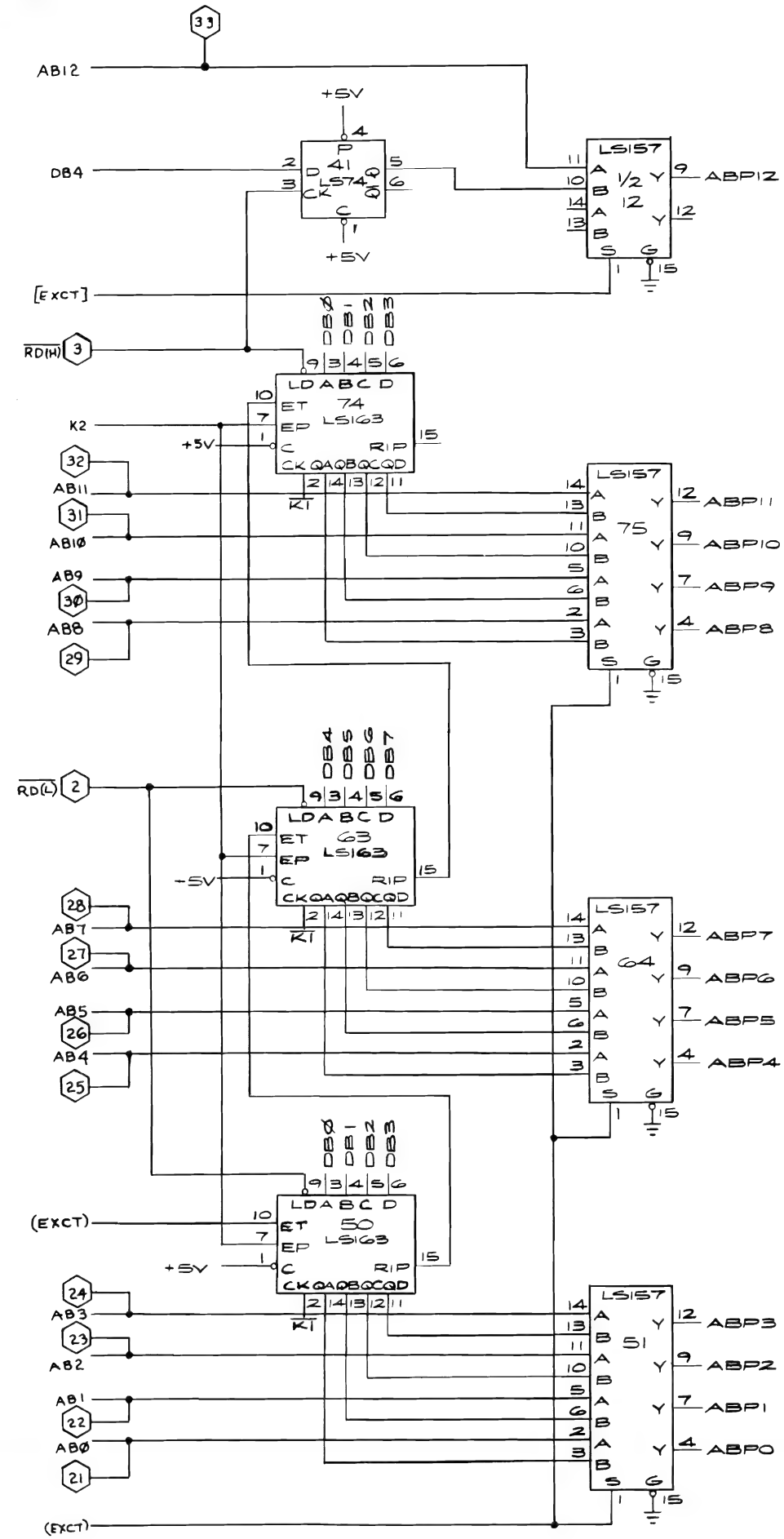
## Kangaroo Video PCB Schematic Diagram

© ATARI INC., 1982

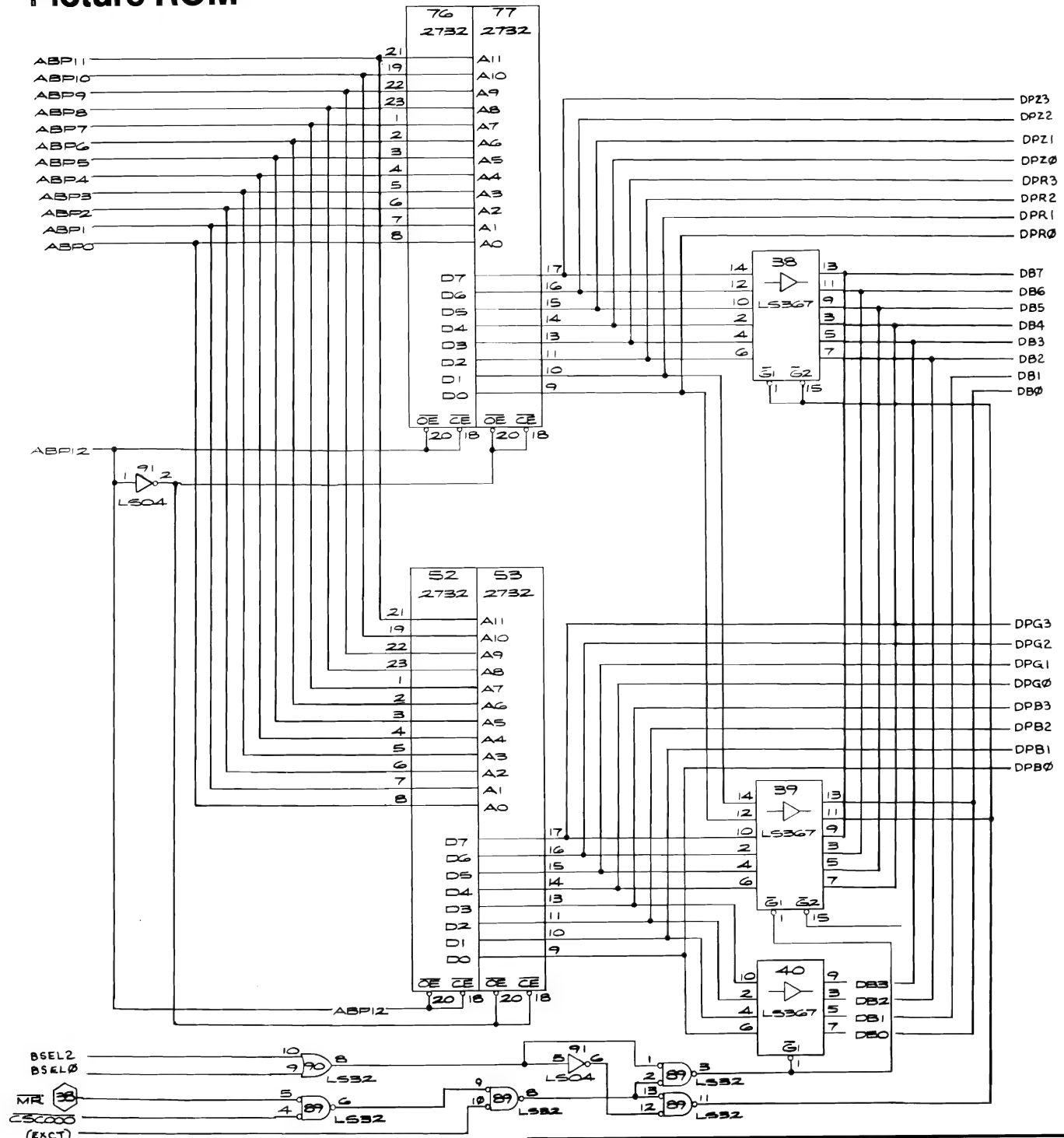
A Warner Communications Company

SP-204 Sheet 9A  
 3rd printing

Picture ROM Address Selector



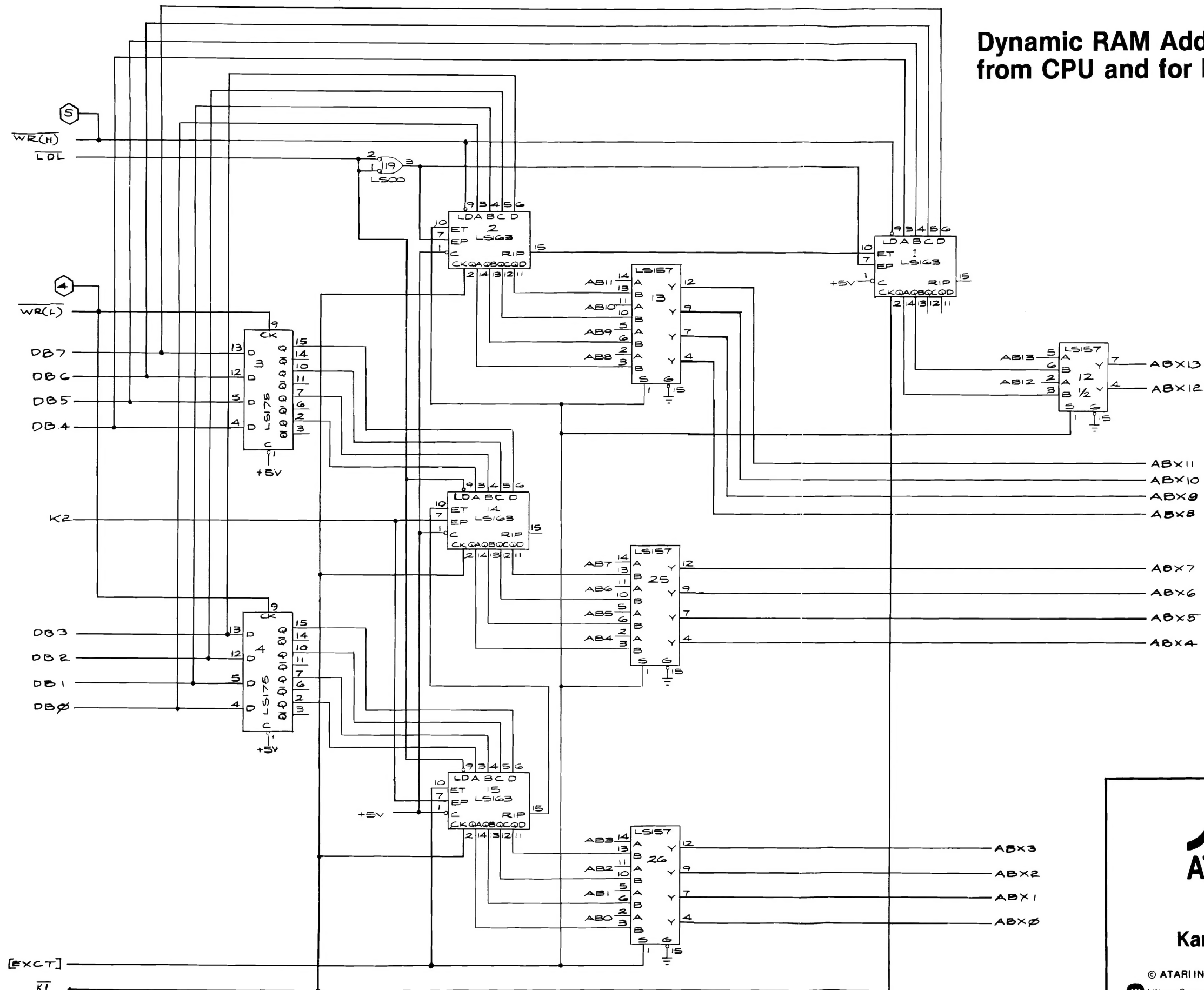
Picture ROM



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo Video PCB Schematic Diagram

# Dynamic RAM Address from CPU and for DMA



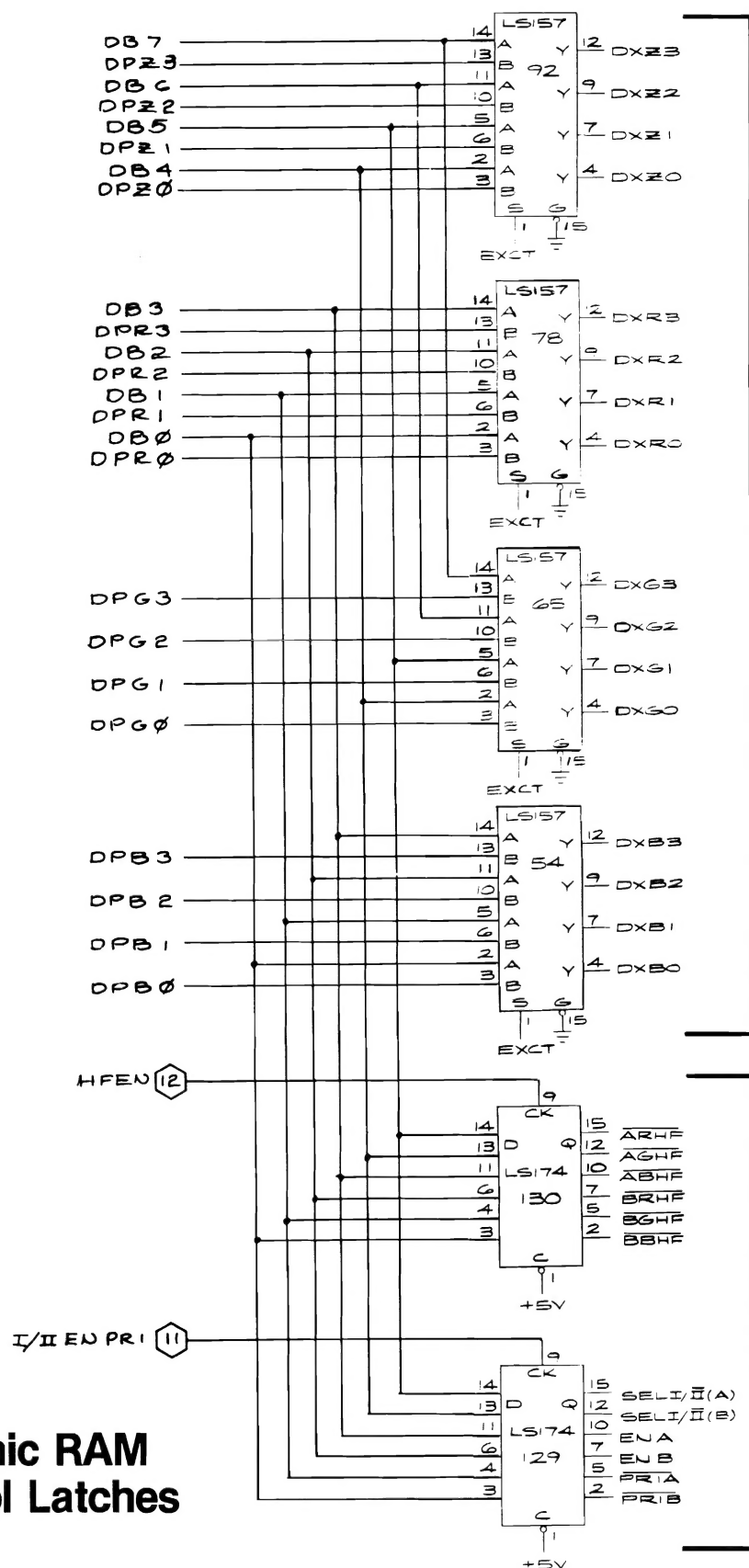
**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

## Kangaroo Video PCB Schematic Diagram

© ATARI INC., 1982  
 A Warner Communications Company

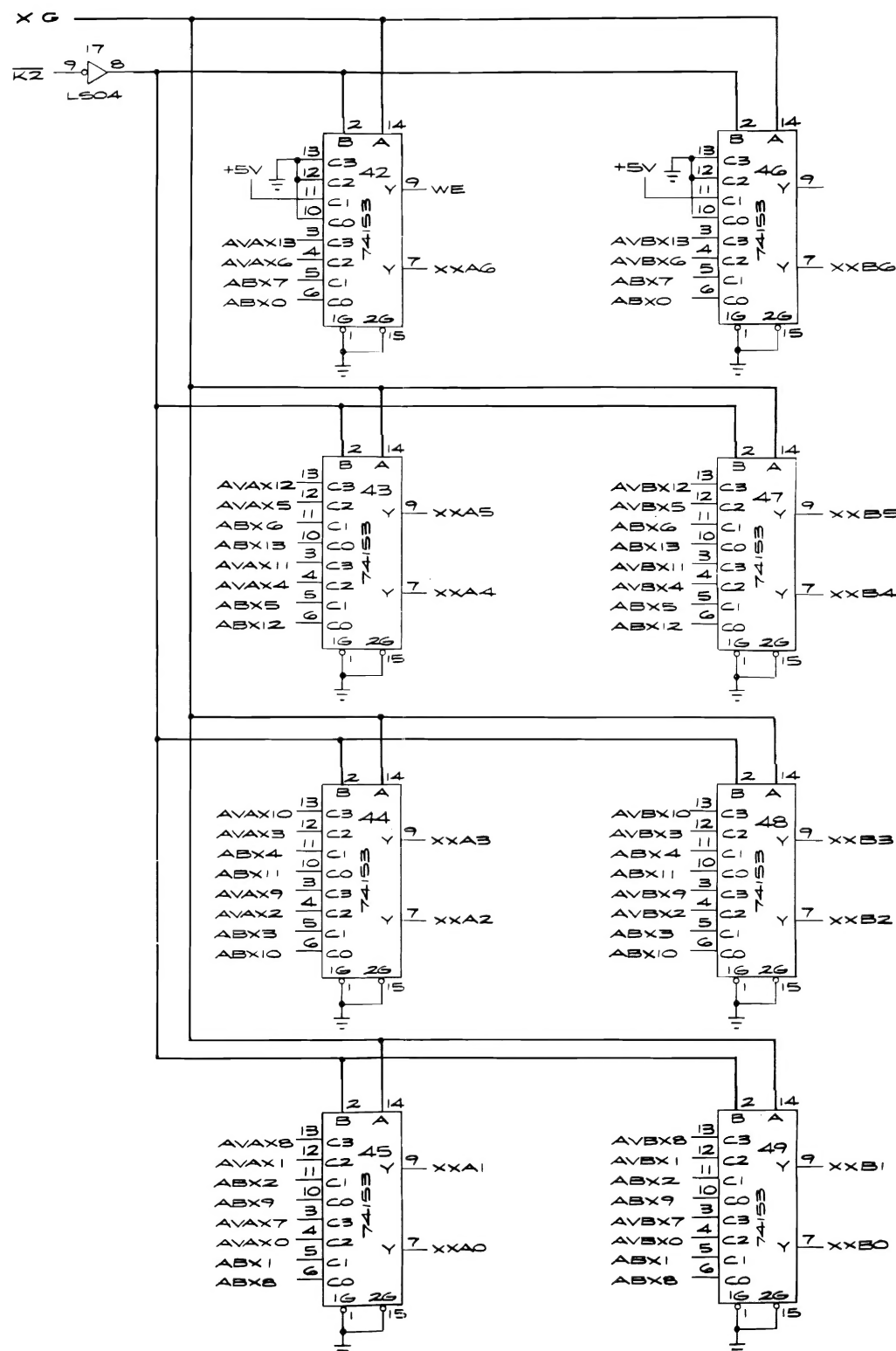
SP-204 Sheet 10A  
 3rd printing

Dynamic RAM Data Selector



Dynamic RAM  
Control Latches

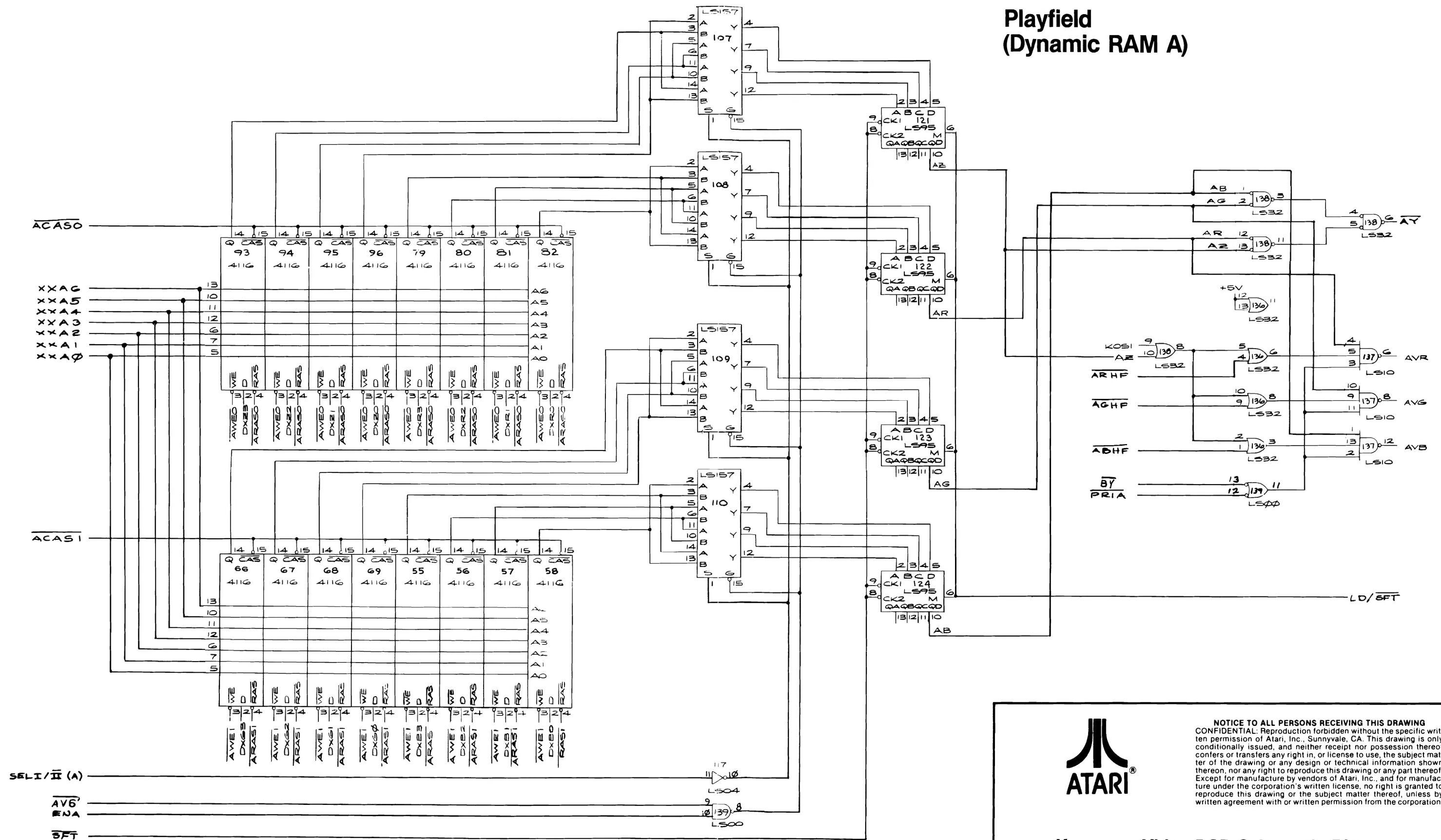
Dynamic RAM Address Selector



NOTICE TO ALL PERSONS RECEIVING THIS DRAWING  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

Kangaroo Video PCB Schematic Diagram

# Playfield (Dynamic RAM A)



**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
 CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information shown thereon, nor any right to reproduce this drawing or any part thereof. Except for manufacture by vendors of Atari, Inc., and for manufacture under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

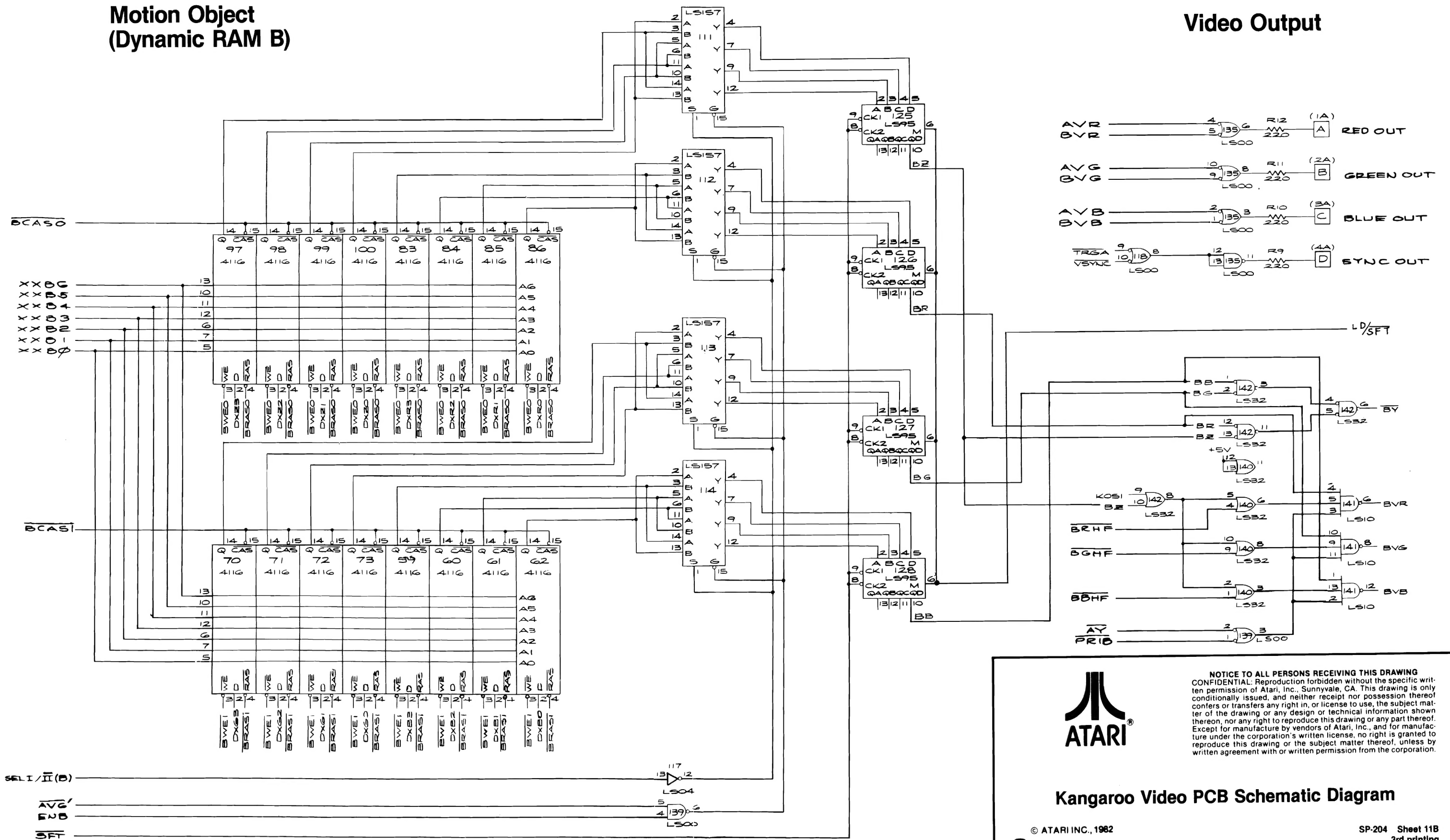
## Kangaroo Video PCB Schematic Diagram

© ATARI INC., 1982  
 A Warner Communications Company

SP-204 Sheet 11A  
 3rd printing

## Motion Object (Dynamic RAM B)

## Video Output



**NOTICE TO ALL PERSONS RECEIVING THIS DRAWING**  
CONFIDENTIAL: Reproduction forbidden without the specific written permission of Atari, Inc., Sunnyvale, CA. This drawing is only conditionally issued, and neither receipt nor possession thereof confers or transfers any right in, or license to use, the subject matter of the drawing or any design or technical information contained thereon, nor any right to reproduce or use the subject matter thereof. Except for the limited rights of the members of Atari, Inc., and for manufacturers under the corporation's written license, no right is granted to reproduce this drawing or the subject matter thereof, unless by written agreement with or written permission from the corporation.

## Kangaroo Video PCB Schematic Diagram

© ATARI INC., 1982

**W** A Warner Communications Company

SP-204 Sheet 11B  
3rd printing